THIS WEEK'S National Petroleum NEWS

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National Oil Show, Sherman Hotel, Chicago, Jan. 19 to 25.

Independent Oil Men's Association of New England, American House, Boston, Mass., Jan. 22, 23, 24.

Oklahoma Oil Jobbers Association, Huckins Hotel, Oklahoma City, Jan. 23, 24.

National Petroleum Association, Fire and Safety Marshals, William Penn Hotel, Pittsburgh, Pa., Jan. 24.

Wisconsin Petroleum Association, Hotel Pfister, Milwaukee, Jan. 28, 29.

Northwest Petroleum Association, North Dakota division, Grand Forks, N. D., Jan. 30, 31.

South Dakota Independent Oil Men's Association, Carpenter Hotel, Sioux Falls, S. D., Feb. 4, 5.

Iowa Petroleum Association, Fort Des Moines Hotel, Des Moines, Ia., Feb. 11, 12.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Feb. 19, 20, 21.

Western Petroleum Refiners Association, Shreveport, La., March 10, 12.

Michigan Oil Men's Association, Statler Hotel, Detroit, March 19, 20, 21.

American Association of Petroleum Geologists, Roosevelt Hotel, New Orleans, La., March 20, 21 and 22.

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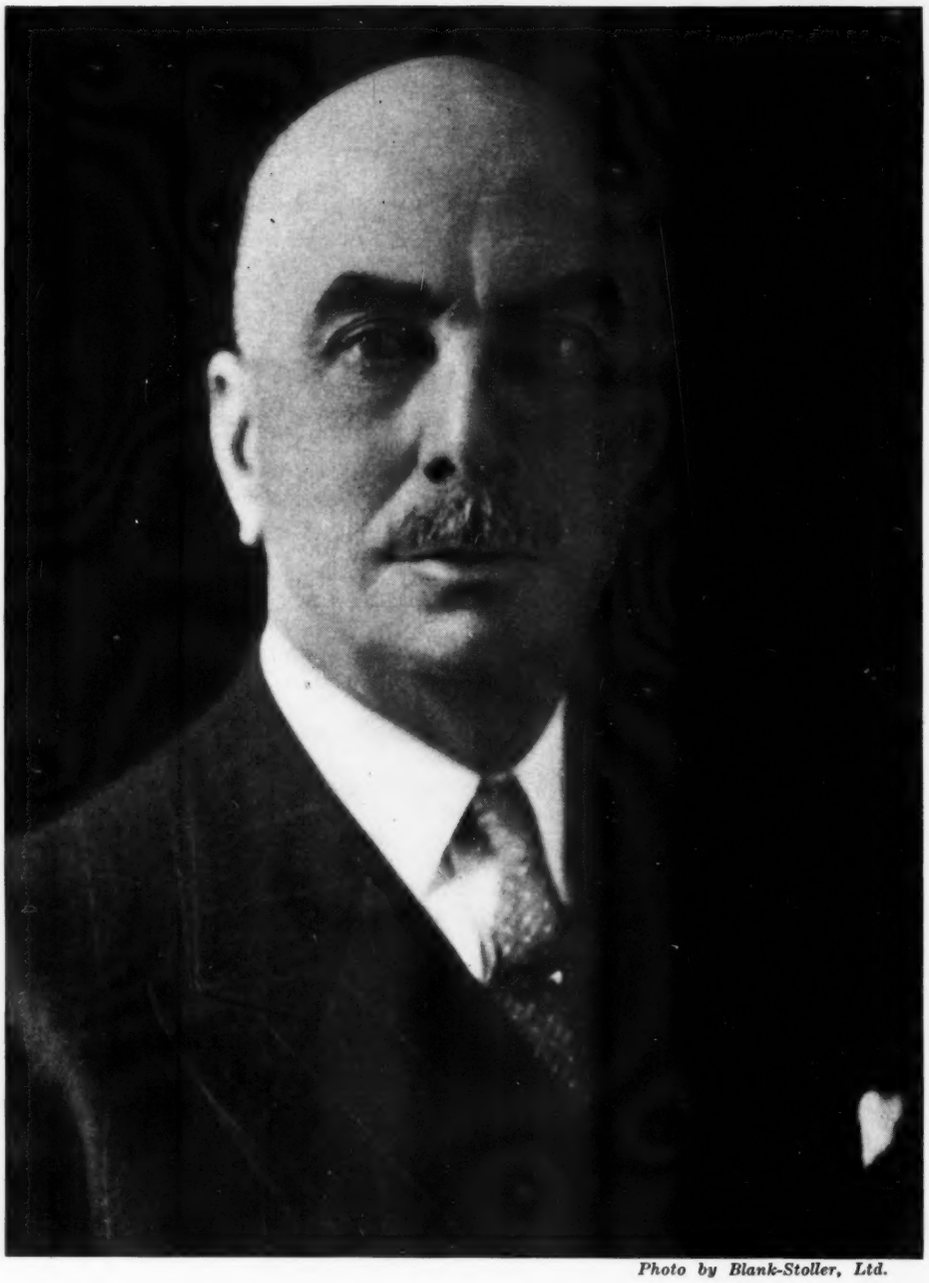

Photo by Blank-Stoller, Ltd.

CHARLES ORRIN STILLMAN, president of Imperial Oil, Ltd., has been in the oil business in the United States and in Canada since his school days. During school vacations he worked under his father, the late Charles Stillman, who was an official at the Bayonne plant of the Standard Oil Co.

After his schooling was completed Mr. Stillman worked at Bayonne for some time and later was appointed superintendent at Buffalo for the Standard. As superintendent of the Bushnell Co., Ltd., he was in charge of construction of the refining plant at Sarnia, Ont. Subsequently he was appointed a director and superintendent of Imperial Oil, Ltd.

In 1901 Mr. Stillman was made general superintendent of the Imperial. In 1910 he was made assistant general manager and in 1911 vice president. He was elevated to the presidency, the position he now holds, in 1919.

Mr. Stillman is a native of Cleveland. Both parents were of English ancestry and he is a British subject.

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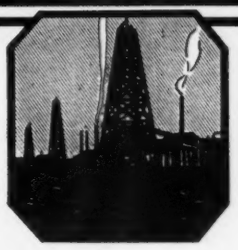

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Vol. 22 CLEVELAND, January 8 No. 2

New Tank Wagon and Retail Price Basis Adopted by New Jersey Standard

CLEVELAND, Jan. 6

A NEW structure for basing gasoline and kerosene tank wagon and retail prices put into force Jan. 6 by the Standard Oil Co. of New Jersey in its Atlantic seaboard marketing territory, is believed to foreshadow a general change in marketing price structures in many parts of the country this year.

The Standard's new plan is based on the cargo lot market at terminals or refining points on Atlantic seaboard, plus a differential to cover handling to individual destinations, freight rates, inspection fees and taxes. Formerly the company averaged its freight costs over a state and established statewide tank wagon and service station prices. The seaboard market price is being established by the domestic price of gasoline shipped from Gulf ports.

The new schedule represents an average decrease of 0.7 cent a gallon in average prices of gasoline at both tank wagon and service station and an increase of 0.2 cent a gallon in average price of kerosene.

The new price structure brings into play prices that vary by tenths of cents as in the Standard Oil Co. of Indiana territory. Heretofore the New Jersey company's prices varied only by half cents.

Grounds for belief that many price structures will be altered this year are in the fact that the New Jersey company shortly will begin to pipe gasoline from Bayonne, N. J., westward through its Tuscarora pipe line to a terminal on the Ohio river with auxiliary terminals at points through Pennsylvania; the projected building of another pipe line for gasoline inland, by another company, from another Atlantic cost point; a projected gasoline line from the Mid-Continent to the Chicago marketing area, and an expected upward revision* of freight rates on petroleum products from Mid-Continent territory into the middle west.

There also is a possibility that inland waterways may be used more to transport petroleum products, thereby undercutting the rail rates, and that markets in a radius of 100 or more miles of refineries may be supplied with motor fuel hauled on the public highways in motor transport tank trains. One transit company has already been formed in the Mid-Continent and is hauling gasoline from refineries to consuming centers as far as 150 miles away, at under the rate by rail.

The changes in freight rates or adoption of different methods of transportation that have been used in transporting refined oils to markets may cause revamping of gasoline and kerosene price structures to conform to the new order.

The new plan of the New Jersey company is expected to curtail in large measure the demoralization of eastern seaboard markets by the dumping of cheap gasoline at Atlantic coast terminals. Under the new plan retail and tank wagon prices will be held close to the going market for the particular grade of gasoline or kerosene sold. With the exception of tanker rates, charges involved in establishing the prices are largely uniform, with the differential to cover handling and profits being what the company believes to be fair in relation to its operating costs.

Dealers' margins remain through the company's territory at 4 cents a gallon on gasoline, the dealer getting 2 cents off the posted tank wagon price. The company's Ethylized gasoline, Esso, will continue to sell at 3 cents premium.

The company did not announce what grade of gasoline it was using as its basing commodity. It does not sell its Standard brand as U. S. Motor but it does sell U. S. Motor at its refineries and terminals. No announcement was made of any change in its tank car market prices.

The new plan brought both advances and declines in the prices of gasoline and kerosene in Standard of New Jersey territory. The largest declines in prices were at cities in which it has its refineries or terminals. At points remote from the refineries or shipping points prices were increased because those points no longer benefited from an averaging of freight rates over a state but were forced to pay all the freight themselves.

Warner-Quinlan Co. which has a refinery at Warners, N. J., and markets in New York, announced Jan. 4 that it would follow the Standard's schedule, which was announced Jan. 3. Gulf Refining Co., Continental Oil Co., Richfield Oil Corp. of New York, Shell Eastern Petroleum Products Inc., Sun Oil Co., Sinclair Refining Co., and Pure Oil Co., announced they would meet the new tank wagon and service station prices in competitive territory.

Other important marketing companies in the territory include The

*See NATIONAL PETROLEUM NEWS, Jan. 1, 1930, page 24.

New and Old Gasoline and Kerosene Prices in New Jersey Territory

	GASOLINE (including tax)					KEROSENE		
		OLD		NEW (Jan. 6)		OLD	NEW (Jan. 6)	
	Tax	T.W.	S.S.	T.W.	S.S.	T.W.	T.W.	
Atlantic City, N. J.....	2	16	18	16.5	18.5	13	13.5	Atlantic City, N. J.
Newark, N. J.....	2	17	19	15.5	17.5	13	12.5	Newark, N. J.
Annapolis, Md.....	4	19	21	18	20	13	13	Annapolis, Md.
Baltimore, Md.....	4	19	21	17.2	19.2	12	10.5	Baltimore, Md.
Cumberland, Md.....	4	20	22	19	21	13	14	Cumberland, Md.
Washington, D. C.....	2	17	19	15.7	17.7	12	12.7	Washington, D. C.
Danville, Va.....	5	21	23	19.8	21.8	12	13.8	Danville, Va.
Norfolk, Va.	5	20	22	18.3	20.3	12	11	Norfolk, Va.
Richmond, Va.	5	20	22	18.7	20.7	13	12.7	Richmond, Va.
Roanoke, Va.....	5	21	23	20	22	13	14	Roanoke, Va.
Petersburg, Va.	5	21	23	19.3	21.3	13	13.3	Petersburg, Va.
Charleston, W. Va.....	4	19	21	18.5	20.5	13	13.5	Charleston, W. Va.
Keyser, W. Va.	4	20	22	19.1	21.1	13	13.1	Keyser, W. Va.
Parkersburg, W. Va.....	4	19	21	17.2	19.2	12	12.2	Parkersburg, W. Va.
Wheeling, W. Va.	4	20	22	18.4	20.4	13	13.4	Wheeling, W. Va.
Charlotte, N. C.	5	17	19	20.3	22.3	13	14.3	Charlotte, N. C.
Hickory, N. C.	5	21	23	20.8	22.8	13	14.8	Hickory, N. C.
Mt. Airy, N. C.	5	19	21	20.5	22.5	13	14.5	Mt. Airy, N. C.
Salisbury, N. C.	5	19	21	20.7	22.7	13	14.7	Salisbury, N. C.
Columbia, S. C.	6	21	23	19.3	21.3	13	12.3	Charleston, S. C.
Charleston, S. C.....	6	22	24	21.2	23.2	13	14.2	Columbia, S. C.

Texas Co., American Oil Co., Standard of Indiana, Atlantic Refining Co., Tide Water Oil Co.

The New Jersey company has refineries at Bayonne and Bayway, N. J., Baltimore, Charleston, S. C., and Parkersburg, W. Va., and a tide water terminal at Norfolk, Va. The projected Ohio river terminal will be able to serve a large part of western Pennsylvania and West Virginia by barging oils on the Ohio, Allegheny and Monongahela rivers.

The only inland shipping point of the New Jersey company affected by the new price structure is the Parkersburg refinery. Parkersburg has been given the same base price as Baltimore, 19.2 cents a gallon for "Standard" gasoline at the service station, including 4-cent tax in each state. Although extra shipping is involved in operating out of Parkersburg, it is said competitive conditions were a large factor in establishing the base price there.

The New Jersey company extended its new structure into Delaware which state is entered as a marketer two or three years ago. It does not apply to Pennsylvania, where its new subsidiary, the Standard Oil Co. of Pennsylvania, began operations in 1928. The Atlantic Refining Co. sets the market practice in Pennsylvania, because it is the largest distributor of petroleum products there.

Inquiries at 26 Broadway, as to whether the schedule would be extended to the territory of the Standard Oil Co. of Louisiana were referred to New Orleans, the headquarters of the Louisiana company.

At New Orleans it was said no change in the gasoline and kerosene price structures was contemplated in Louisiana territory.

S. Dakota Jobbers Meet in February

MADISON, S. D., Jan. 6.—The eleventh annual convention of the South Dakota Independent Oil Men's Association will be held at the Carpenter Hotel, Sioux Falls, Feb. 4 and 5, according to F. H. Buehler, secretary.

Commercial Discounts Out in Oklahoma

TULSA, Jan. 2.—All classes of commercial discounts were abolished in Oklahoma by major oil companies Jan. 1 through the efforts of the state code committee of the American Petroleum Institute. In the future gasoline will be sold at the same price to all classes of consumers.

Independent jobbers welcomed the new move and will follow the practice according to the committee. The commercial discount appeared to the code committee to be the greatest single obstacle in the way of completed observance of the code of marketing practices.

Past practice in Oklahoma has been to allow a two-cent discount to all cars with a "T" license or a "CC" license as well, as to operators of fleets of taxicabs. The "T" licenses are those issued by the state on trucks and the "CC" licenses are issued by the state corporation commission to common carrier busses in the cities and on the highways for interurban service.

Tank wagon customers will obtain a price 4 cents below the service station price in the state as in the past. This will include the operators of fleets of cars, trucks or busses who have installed their own tanks and pumps at their garages or parking lots, the farmers who have bulk storage and privately owned service stations.

Operators of trucks and busses who patronize filling stations will be charged the regular service station price with no deductions. Many Independent jobbers in Oklahoma have refused to accept the code of marketing practices because of the general practice of allowing commercial discounts. Members of the state committee have received assurances from these Independents that they will sign now that the discounts have been abolished.

One company which has been in agreement with the code except that it had a policy of giving away gasoline on opening days at all new stations is said to have modified its policy so that it will have such an opening at only one station in any city or town. Additional stations will not give away anything of value when opened for business.

Henry H. Brigham Dies Suddenly in N. Y.

CHICAGO, Jan. 6.—Henry H. Brigham, aged 63, president and founder of the North American Car Corp., died suddenly in New York, on Jan. 4. He founded the North American Corp. in 1907. Previous to this he was connected with the Nickel Plate railroad, and the Chicago and North Western railroad.

Mr. Brigham was prominent in civic affairs and was member of the Chicago Association of Commerce, Illinois Manufacturers Association, Masonic Lodge, and the Traffic, Union League, and Skokie Country clubs.

Survivors in the immediate family are his widow, Mrs. Belle Hanna Brigham, two sons, Henry H., and Erwin R., a vice-president of the North American Corp., and one daughter, Mrs. Edith Brigham Swan. The family home was in Glencoe.

Funeral services will be held Tuesday, Jan. 7 at St. Elizabeth's church, Glencoe, with interment at Rosehill cemetery.

1929 Mid-Continent Refinery Prices Feel Outside Competition

By Allen S. James
N. P. N. STAFF WRITER

TULSA, Jan. 4

FUEL oil competition from West Texas, and gasoline competition from the Illinois-Indiana group of refiners caused a reduction in income of Mid-Continent refiners in 1929, from 1928, from these two products, according to the records of NATIONAL PETROLEUM NEWS. Income from sales of kerosene, stove distillate and gas oil, however, was somewhat higher than for 1928.

The effect of the gasoline competition was not noticeable statistically until about the middle of the year. Gasoline markets in the Mid-Continent staged an excellent comeback in 1928 after the low levels of 1927, and managed to hold their own well into 1929. In the case of 64-66, 375 end point gasoline, the December, 1928, average was 10.2806 cents per gallon, while the January, 1929, average dropped to 9.1719 cents, and the February, 1929, average to 8.3479 cents.

The average for this commodity in Oklahoma (Group 3) fluctuated between 8.1357 cents, reached in March, to 9.8333 cents reached in June, but began dropping later due to the continued lack of export buying. Many refiners continued to make this grade in anticipation of a better export demand, but the Export Petroleum Association did not give them any relief until late in the year. Accordingly, they were forced to push some of their production into domestic channels, or to sell to a Tulsa broker who purchased three or four cargoes for the account of foreign buyers.

These purchasers came directly into the Mid-Continent for their goods, paying the freight, terminal and tanker charges, instead of following the usual custom of buying from exporters f.o.b. seaboard terminals.

Even after the Export Association purchased 18,000,000 to 20,000,000 gallons of gasoline late in the year, prices continued to lose ground, and the December, 1929, average was 7.9437 cents a gallon. The average price for the year was 8.6129 cents a gallon, slightly more than a quarter of a cent under the 1928 average.

The 58-60 U. S. Motor grade registered an average of 8.6229 cents a gallon for December, 1928. The price declined early in 1929 to a low of 6.9403 cents for February, but soon rallied and moved up to an average of 9.2128 cents for June. Competition grew too stiff, however, and prices showed a downward trend throughout the remainder of the year.

The average price for December, 1929, was 7.1314 cents a gallon. The average price for 1928 was 7.9706 cents as compared with an average of 7.7145 cents for 1929, the latter average being approximately a quarter of a cent below that of the previous year. The per cent of decrease in price of 64-66, 375 e.p. gasoline for 1929 as compared with 1928 was 3.3, and that for 58-60 U. S. Motor 3.2.

Fuel oil prices in 1928 reached their high for the year in March. The average price for 18-22 fuel that month was 80.31 cents a barrel. But the middle of the summer, however, West Texas refiners were operating on enlarged scale, and prices began to decline.

The West Texas group was in full swing by the close of 1928, and the average price for 18-22 fuel for December of that year was 57.5 cents a barrel. The West Texas refiners continued to dominate the market with fuel made from low priced West Texas crude until the postings were revised and increased materially on May 20, 1929.

It was only a question of time after that crude advance until the West Texas refiners as a group began reducing operations, and the supply of fuel from that district became considerably smaller in volume. The average for 18-22 fuel oil for May, 1929, was 55.31 cents, with the low reached in July with an average of 54.5 cents a barrel.

Prices began to move upward slowly after July and at the end of the year fuels were recovering their lost ground with rapid strides. The average price for December, 1929, was 77.5 cents a barrel, the highest average since April, 1928. The average price for 1928 was 66.64 cents, and for 1929, 60.19 cents a barrel. The per cent of decrease in price for the two years was 9.7.

There was no shortage of kerosene

TABLE No. 1 — Comparative Average Spot Market Price for Principal Refined Products Quoted in Cents per Gallon (except Fuel Oil) Group 3, for 1928 and 1929. ased on weekly quotations as published in NATIONAL PETROLEUM NEWS

	64-66, 375 e. p. Gasoline		58-60 U. S. Motor Gasoline		41-43 W. W. Kerosene		38-40 Straw Distillate		32-36 Dark Gas Oil		18-22 Fuel Oil (per Bbl.)		
	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929	
January	6.925	9.1719	5.8375	7.8804	4.2750	5.3437	3.3125	3.206	2.4625	2.7500	$0.7125	$0.5750	January
February	7.0427	8.3479	6.0910	6.9403	4.1875	5.3437	3.2500	4.094	2.5000	3.0469	0.7938	0.5500	February
March	7.1438	8.1357	6.3063	6.9970	4.3483	6.0312	3.1250	4.188	2.5156	3.1406	0.8031	0.5593	March
April	7.2042	8.3384	6.7600	7.4062	4.9125	6.6375	3.0625	3.725	2.6250	2.7125	0.7925	0.5625	April
May	7.7552	8.8594	7.3592	8.0642	5.3125	5.7651	3.0625	3.375	2.6250	2.4375	0.7250	0.5531	May
June	8.1697	9.8333	7.7941	9.2128	4.9375	5.9062	3.0313	3.375	2.5469	2.4688	0.6844	0.5593	June
July	8.9375	9.1000	8.4116	8.5449	4.8500	5.5375	2.9375	3.500	2.4375	2.4500	0.5975	0.5450	July
August	10.7257	8.6250	9.6609	7.6199	6.1094	5.4062	3.0313	3.625	2.4375	2.5625	0.5750	0.5687	August
September	11.0000	8.4167	9.7435	7.7061	6.5000	5.4250	3.2969	3.888	2.4375	2.7375	0.5750	0.6125	September
October	10.9667	8.3625	9.7067	7.6580	6.1625	5.0937	3.3628	4.078	2.5875	3.0156	0.5850	0.6750	October
November	10.7500	8.2188	9.3537	7.4122	5.8906	4.7031	3.4375	3.828	2.6250	2.9375	0.5781	0.6875	November
December	10.2806	7.9437	8.6229	7.1314	5.6375	4.4250	3.5125	3.813	2.6625	2.9500	0.5750	0.7750	December
Average	8.9084	8.6129	7.9706	7.7145	5.2603	5.4682	3.2018	3.7246	2.5385	2.7675	0.6664	0.6019	Average
Increase or decrease from 1928, Cents		-0.2955		-0.2561		+0.2079		+0.5228		+0.2290		-0.0645	Increase or decrease from 1928, cents
Per cent increase or decrease		—3.3		—3.2		+4.0		+16.3		+9.0		—9.7	Per cent increase or decrease

Per cent increase in posted price of 38 gravity crude in 1929 over 1928 was 4.3 per cent.

TABLE No. 2 — Comparison of Average Spot Market Prices By Years of Four Principal Commodities from 1926 to 1929 Inclusive. (Quotations in Cents Per Gallon, Based on Weekly Quotations as Published in NATIONAL PETROLEUM NEWS.)

	64-66, 375 e.p. Gasoline			58-60 U. S. Motor Gasoline			41-43 W. W. Kerosene			38-40 Straw Distillate		
	Avg. Price	Increase or decrease from previous year	Percent of change from previous year	Avg. Price	Increase or decrease from previous year	Percent of change from previous year	Avg. Price	Increase or decrease from previous year	Percent of change from previous year	Avg. Price	Increase or decrease from previous year	Percent of change from previous year
1926.....	11.977	—1.241	—9.4	10.457	—0.196	—1.8	7.350	+2.791	+61.2	4.846	+1.153	+31.2
1927.....	7.799	—4.178	—34.9	6.859	—3.598	—34.8	4.712	—2.638	—35.9	3.615	—1.231	—25.1
1928.....	8.9084	+1.1174	+14.3	7.9706	+1.1556	+17.0	5.2603	+1.1573	+28.2	3.2018	—0.4262	—11.7
1929.....	8.6129	—0.2955	—3.3	7.7145	—0.2561	—3.2	5.4682	+0.2079	+4.0	3.7246	+0.5228	+16.3

during 1929 but prices were steady at 4.4250 cents a gallon and up, with the high mark reached in April with an average for the month of 6.6375 cents. The average in 1928 for 41-43 w.w. grade was 5.2603 cents, as compared with an average for 1929 of 5.4682 cents, an increase in income of approximately a fifth of a cent a gallon, or 4 per cent.

Several refiners paid little attention to kerosenes while those who did make the product apparently devoted more attention to its sale, with the result that relatively higher prices were asked for the improved product.

Stove distillates showed the largest per cent of increase in price for 1929 as compared with 1928. The figure was 16.3. The low for 1929 was in January with an average of 3.206 cents a gallon, while the high was reached in March with an average of 4.188 cents. The increase in revenue from distillates was due almost entirely to the extremely severe winter.

Refiners had built up what they considered was ample storage for the winter demands, basing their estimates primarily on the previous winter which had been comparatively mild. They did not anticipate the long period of sub-normal weather, however, and were unable to adjust their operations quickly enough to cope with the tremendous demand which developed about the first of the year. The result was a sizable draft on stocks, a shortage of the commodity for spot shipment and an advance in price.

The same story might be written also about gas oil, amplified by the statement that demand for the oil for cracking purposes was a supporting factor. When distillates become scarce early in the year more gas oil was consumed in home and industrial equipment, and the demand through the summer and early fall for cracking purposes kept prices relatively higher than those of 1928.

The lowest price was in July, the average being 2.45 cents a gallon. The highest average was in March, 3.1406 cents a gallon. The average in 1928 was 2.5385 cents, and in 1929, 2.7675 cents, an increase of 0.229 cents a gallon.

Table No. 1 shows the average prices for the six principal commodities, listed by months, and for the year. The per cent of decrease or increase in prices also is shown. It will be observed that while the average price of 38 gravity crude at the well increased 4.3 per cent in 1929, the average price of gasolines and fuel oils declined, and those of the other commodities increased.

Table No. 2 shows the average price of four principal commodities for the past four years, together with the change in income, and the per cent of change from the previous year.

New Code List Has 1260 Names

CLEVELAND, Jan. 6.—Approximately 9000 individuals, firms or corporations have signed the code of ethics, the American Petroleum Institute has announced in connection with the issuance of a list of new signers. The present list contains 1260 names, a majority of which are California dealers. There are a few signers from the middle west and east, among them being the Oil Creek Refining Co. of Titusville, Pa.

Ethyl to Open Tulsa Laboratories

TULSA, Jan. 6.—The Ethyl Gasoline Corp. has located a division office in Tulsa, with J. G. Martin in charge and will construct at once a laboratory for the purpose of testing gasoline samples. Tulsa was selected as divisional headquarters for the entire southwest.

The company requires all refiners making Ethyl gasoline to send samples to its laboratory where tests are made to determine the amount of Ethyl fluid needed to make the gasoline standard. Samples of all completed blends are also required before shipments can be made.

Refiners in this section heretofore have had to send samples to Omaha for testing. Those in Texas had to send samples to New Orleans. Since users of Ethyl in the southwest increased from seven to twenty-five since the latter part of 1928, Tulsa was decided upon as the logical point to have the laboratory.

American Petroleum Institute report on refinery operations in the United States for the week ended Jan. 4, compared with the week ended Dec. 28

Districts	Per Cent of Capacity Reporting	Daily Av. Crude Run to Stills Wk. Ended 1-4 (Barrels)	Daily Av. Crude Run to Stills Wk. Ended 12-28 (Barrels)	Per Cent of Reporting Capacity Operated Wk. Ended 1-4	Per Cent of Reporting Capacity Operated Wk. Ended 12-28	Stocks Reported in Thousands of Barrels: Gasoline Stocks Jan 4	Gasoline Stocks Dec. 28	Gas & Fuel Oil Stocks Jan. 4	Gas & Fuel Oil Stocks Dec. 28
East Coast.....	100.0	455,000	480,500	75.1	79.3	5,998	6,140	7,431	7,836
Appalachian.....	91.6	75,600	78,600	64.5	66.8	1,282	1,267	805	795
Ind.-Ill.-Ky.....	98.6	289,800	282,200	81.6	79.5	5,483	4,975	3,505	3,523
Okla.-Kan.-Mo.....	87.7	263,500	288,300	65.0	70.4	3,604	3,538	3,277	3,401
Texas.....	90.7	539,900	525,500	76.5	74.7	6,590	6,692	13,757	14,135
La.-Ark.....	96.8	160,000	182,000	61.1	62.3	2,161	1,978	4,499	4,848
Rocky Mountain....	93.3	41,600	50,100	30.0	36.0	2,273	2,193	973	1,008
California.....	99.3	642,900	654,100	72.1	73.4	14,826	15,177	109,770	109,606
Total U. S.....	95.4	2,468,300	2,541,300	70.9	72.3	42,217	41,960	144,017	145,152
Texas (Gulf Coast)..	100.0	429,600	421,200	81.6	80.0	5,579	5,646	10,792	11,153
La. (Gulf Coast)....	100.0	108,500	126,700	73.6	71.4	1,877	1,698	3,818	3,958

Rate Hike Would Rob Railroads of Much Tonnage, Traffic Men Believe

By Allen S. James
N. P. N. STAFF WRITER

Staff Special
TULSA, Jan. 4

ACCEPTANCE by the Interstate Commerce Commission of the examiners' report filed Dec. 28 in the Southwestern rate case (Docket 17000 Part 4-A) would give relief through lower rates to refiners in some parts of Texas, but would increase considerably the burden on refiners in the remainder of the Mid-Continent. It also would work a hardship on railroads through possible loss of revenue now received for short hauls, and to an increase in pipe line competition.

That, in brief, appears to be the opinion of the refinery traffic managers in Tulsa who have had an opportunity to scan hastily the voluminous report. None of them has had time to wade through the 600 pages of the file and it probably will be some time next week before any of them will have had time to prepare reports for their executive and legal staffs. Some of the opinions were derived from a study of the high spots covered in the article in NATIONAL PETROLEUM NEWS Jan. 1 issue, page 24.

Refiners generally expected a recommendation for lower rates in some portions of Texas. It was admitted the rates in question were abnormally high. It was not expected, however, that the examiners' report would be in effect a recommendation of a lower rate in Texas and the inauguration of a high rate in other sections of the Mid-Continent, which would be the case should the Commission approve the proposed 1.5 cents per 100 pounds increase from the Southwest to Kansas City and St. Louis gateways.

The proposal made by the examiners was considered by several traffic men as tantamount to a recommendation that a minimum rate be put into effect, this minimum rate to be the maximum suggested by the Commission in its decision on the Mid-Continent Rate case, 1925, and which maximum the carriers declined to adopt.

From the standpoint of the refiners the increase of 1.5 cents per 100 pounds in the rate to St. Louis would mean a subsequent increase in rates from the Mid-Continent to Chicago and other eastern and northern points in the Mississippi valley. Mid-Continent refiners already are burdened with the competition from refiners in the north and east who are using Mid-Continent crude delivered to them through the increased pipe line facilities from the Mid-Continent and west Texas areas. The increase in rates into competitive territory would only add materially to the burden now carried by the Mid-Continent refiners.

It was the fear of the pipe line competition and the threat of Mid-Continent refiners to build a gasoline pipe line to more advantageous loading points or distributing centers, which prevented the railroads from putting into effect the maximum rate suggested by the Commission in the Mid-Continent Rate case. The threat of pipe line competition, meanwhile, has grown considerably and no other factors have developed which would change the attitude of the railroads.

The Prairie Pipe Line Co. has increased its pipe line facilities considerably in the past two or three years, as has the Sinclair Pipe Line Co. The Empire-Texas line has been completed and the Shell Petroleum Corp. has extended its line into West Texas, and from Wood River to Chicago.

The proposed increase in rates might stimulate pipe line movement of crude to other points for refining, with a subsequent curtailment of crude throughout in the Mid-Continent and a lowering of the volume of refined products moved by the railroads. And that threat of a gasoline pipe line still hovers over the railroads.

Traffic men meanwhile point out that the adoption of the proposed scale of rates would force refiners to use tank trucks for movement of products 150 miles or less. One transportation company already is operating in the Mid-Continent, contracting with refiners to haul refined products within a radius of a hundred miles of the refinery at a rate scale of 15 to 25 per cent under the present rail rates. It can be seen readily what effect an increase in the present rail tariff would have in stimulating the tank truck and trailer movement over the Mid-Continent's highways.

It is possible also that refiners would find it more profitable to own and operate their own fleet of tank trucks rather than pay the increased rail rates for intrastate movement. The Continental Oil Co. has operated for several months a truck and two trailers serving its bulk stations within a radius of 100 miles of the Ponca City refinery. The unit has saved the company several thousand dollars a month in freight.

The examiners proposed also an increase in rates on petroleum products moved in box cars. That proposal, several traffic men declared, was made despite the fact that no evidence was offered at the hearings to justify in any such a recommendation.

This proposal, if adopted, would also stimulate the movement of petroleum products by means other than rail, traffic men said. This would be particularly true of package goods, such as greases and small containers of lubricating oils, as well as the movement of lubes in drums. Some intrastate shipping has been done for some time by truck but the increase in rates naturally would give that plan considerable impetus.

The commission has set March 5 as the date for the oral arguments. The usual time for filing exceptions —20 days—has been ignored in this instance, and the interested parties have approximately 40 days in which to make objections. Answers to the objections must be filed within 20 days instead of the usual 10 days, or not later than March 1.

Starling Manager of White Oak Company

TULSA, Jan. 4.—Announcement has been made of the appointment of Frank M. Starling as general manager of the White Oak Refining Co., with headquarters in Tulsa. Mr. Starling formerly was a sales executive with the Standard Oil Co. of New York, in charge of that company's affairs in Japan, China, England and France.

He came direct to the White Oak organization from Singapore, after spending a few months with the Magnolia Petroleum Co. studying its system of handling sales and station distribution, and with the Standard of California in its asphalt sales work. Mr. Starling is a graduate of the University of Chicago.

Natural Gasoline Association to Test Aviation Gasolines

Staff Special

TULSA, Jan. 4

A COMPREHENSIVE program of research and tests of all types of aviation motor fuel has been planned for this year by the research and educational committee of the Natural Gasoline Association of America. The work will be directed by Dr. George G. Brown of the University of Michigan, but the field and laboratory work will be done through the cooperation of a number of manufacturing and refining companies owning airplanes.

Dr. Brown met with the committee and technicians and pilots of several companies at Bartlesville, Dec. 30, at which time the various types of instruments were decided upon and the report forms outlined. It was estimated that at least 10,000 reports would be required in the collection of sufficient data, and each report would contain approximately 100 divisions.

Some of the work planned has been conducted privately by one or two of the cooperating companies, and their planes accordingly are partially equipped already and the pilots have begun their test work. Other ships will be equipped with the necessary instruments as quickly as possible.

That the work will be comprehensive in its scope can be judged from the fact that Dr. Brown will test not only every type of fuel now made, but will test a large number of blends prepared under laboratory supervision. He also will test various types of airplane motors, both water and air cooled, these motor tests embracing the use of all types of fuels and blends.

All types of fuel systems in general use also will be tested. For this phase of the program thermocouples or resistance bulbs will be located along the feed system from the tanks to the carburetor jets, and temperature readings recorded.

Dr. Brown will study particularly the characteristics of the various fuels and blends with particular emphasis on their vapor locking possibilities. The blends will be studied with the idea in mind of determining just where vapor locking tendencies appear.

In order to make the work as broad as possible the pilots will cooperate with Dr. Brown by making test flights in all sections of the country, and under all possible weather conditions. The pilots will be responsible for the accuracy of the reports they fill out.

These reports together with the laboratory data which will include complete analysis and characteristics of the fuels used will be forwarded to Dr. Brown as rapidly as they are completed, and it is from the mass of data contained in them that he will draw many of his conclusions.

Companies which already have placed planes at Dr. Brown's disposal include Phillips Petroleum Co. and Empire Gasoline Co. at Bartlesville; Skelly Oil Co. of Tulsa, and Shell Petroleum Corp. of St. Louis. Other companies probably will be included in the near future in the roster of those furnishing test planes.

Dr. Brown several months ago completed an exhaustive research program for the association, with particular emphasis on the anti-knock qualities of natural gasoline. He was retained by the association this year to incorporate his findings in a book which is expected to be released by the publishers early in the year. Most of Dr. Brown's work was done at the University of Michigan laboratories.

Pioneer Pennsylvania Refining Companies in Merger

CLEVELAND, Jan. 6

MERGER was completed Jan. 1 of the American Oil Works Co. of Titusville, and the Pennsylvania Refining Co. of Karns City, two of the oldest Independent refining companies operating in the Pennsylvania field. The new company has taken the corporate name Pennsylvania Refining Co.

Combined products of the merged companies will be distributed under the brand name Penn-Drake. This name originated with the American Oil Works Co. and has been used by it for a number of years. The trade mark registered in the U. S. and Canada consists of a reproduction of a picture of the Drake well with the words Penn-Drake and petroleum products.

The purpose of the merger is to avoid duplication in selling effort. Previously both companies have maintained sales organizations in many parts of the country and in Canada. A much larger territory now can be handled with the same force. Plans are to push Penn-Drake products on a nation-wide scale giving exclusive dealer franchises.

The merger was accomplished through a transfer of stock in the two corporations. Assets of the new company will exceed $4,000,000. It will have a refining capacity of 3200 barrels per day.

Officers of the new company are John A. Beck, president; A. B. Weingard, vice president; Wayne K. Glenn, vice president; Paul R. Beck, secretary and treasurer; and Walter W. Beck, general superintendent. The board of directors will include these and H. A. Downs of Oil City and Henry J. Myers of Chicora. Location of general offices has not been announced.

The Pennsylvania Refining Co. was organized in 1880 when oil development extended from Oil Creek valley southward into Butler county. The original company was known as John Beck and Brother, named after the proprietors, John and George Beck. It specialized in the production of petroleum jelly. In 1902 the company adopted the name Pennsylvania Refining Co. and John A. Beck, the son of George Beck, became active.

In the last decade many improvements have been made in the plant of the Pennsylvania company at Karns City, the most recent being a vacuum lubricating oil unit and new fractionating towers, increasing the capacity of that plant to 2000 barrels per day. Previously the company had installed a centrifuge plant, wax plant, refrigeration plant, filter plant and barreling plant in addition to new distillation units.

The Pennsylvania company formerly sold its products under the trade name Penreco, a contraction of the corporate name. It owns a number of service stations and the F. H. Webber Oil Co., Cleveland, distributing company.

The American Oil Works Co. began business as a partnership in 1883 and incorporated in 1913. The company was bought in March, 1926, by a group composed of owners of the Pennsylvania Refining Co. together with the Surety Oil Co. of Oil City, composed of H. A. Downs and C. F. Halderman of Oil City, J. A. Black of Titusville, William Strance of Franklin, and H. J. and G. J. Myers of Chicora, Pa. Officers elected were John A. Beck, president; Wayne K. Glenn, vice president; and A. B. Weingard, secretary, treasurer and general manager.

New owners improved and enlarged the American plant. They added a centrifuge plant, clay furnace, filter houses, complete motor oil plant and much new power and distillation equipment. The Penn-Drake Distributing Co. was formed to market products. The company now has seven bulk plants and a number of service stations in Pennsylvania and New York.

Radio Talent to Commemorate Standard's 60 Years in Oil

CLEVELAND, Jan. 7

BORN in the questionable luxury of a hillside dump, an industry, which today counts its wealth in the billions, will put on its dinner coat the coming Friday evening, Jan. 10, and sit down to dine appropriately in celebration of its sixtieth anniversary. Jan. 10 is the date that the Standard Oil Co. was organized back in 1870 by men whose names have since become synonymous with vast wealth and power.

The Standard Oil Co. of Ohio, which is the original of the Standard group, has made elaborate preparations for a dinner and radio program for the evening. It will be held at the Hotel Hollenden, Cleveland.

W. T. Holliday, president of the Standard of Ohio, will cut the huge birthday cake, which will be decorated with 60 red, white and blue candles, the color scheme of the company.

A message will come from the lips of John D. Rockefeller, Sr., who has prepared a special talking film for the occasion. It will be shown after the dinner. Because of the rigors of the northern climate, Mr. Rockefeller is not able to leave his winter home at Ormond Beach, Fla. to attend.

Not only will all those men be invited to the banquet who have been pensioned by the original Standard company for many years of continuous service, but many of the state's most prominent and influential men in business, professional and civic affairs will attend. Presidents and members of the boards of directors of the various other Standard Oil Companies will also be there and former Standard men now with other companies.

What is probably the most pretentious radio program ever to be broadcast from Cleveland will follow the dinner. It will come through WTAM, and begin at nine o'clock.

Such famous stars as Mario Chamlee and Merle Alcock of the Metropolitan Opera Co. of New York, and Richard Bonnelli and Alice Mock of the Chicago Civic Opera Co., will be brought to Cleveland for the occasion to broadcast a number of popular operatic selections to radio fans. These singers will be accompanied by a 50-piece symphony orchestra.

Singing for those who prefer the more popular and lively melodies will be Ruth Etting, formerly of Ziegfeld's Follies, and now of the Club Casanova, of New York. Frank Crumit, another famed musical comedy star, who has sung many times over nation-wide network from New York, will also take part.

A 25-piece jazz orchestra and male chorus of 16, under the direction of Charles Dawes, director of the Cleveland Orpheus Male Choir, with Russell Wise as soloist, will be a feature of the radio entertainment.

Other entertainers on the program include Roy Smeck, guitarist, and the popular songsters, Gene and Glen, who formerly teamed with Ford forming a novelty trio; Howard Justice, tenor of the Standard company's regular radio programs, and Ruth Durrell. Negotiations were under way at the time this was written to bring much additional radio talent to Cleveland for the special broadcast.

This first publicly-observed anniversary of the Standard company recalls the far from spectacular beginning of the petroleum industry, when Rockefeller operated some 50 "cheese-box refineries" on a hillside dump in Cleveland. From these crude and humble beginnings rose what was destined to become one of the world's greatest industrial giants.

When Rockefeller, earning $15 a month as office boy in a commission house, first heard the cry of "Oil!" in Pennsylvania, he went to investigate. In 1865, sure that oil was the coming thing, he gave up his commission business, after having cleared $17,000 from this business.

He bought crude at Oil Creek in person. He gave a job in the refinery to his younger brother, William, and had as his partner, Maurice B. Clark, partner in his former commission business. He had also another partner, Samuel Andrews, who found by-products in the crude never found by the other refiners on the hillside.

With the help of one Henry M. Flagler, who later headed the great railroads of Florida and hotel projects under that name, he was able to buy out all the other one-man stills adjoining his on the Cleveland hillside. That was after one Stephen V. Harkness stepped into the picture along with Flagler with plenty of money.

So on Jan. 10, 1870, the Standard Oil Co. was organized with the names of John D. Rockefeller, Samuel Andrews, Henry M. Flagler, Stephen V. Harkness and William Rockefeller attached to the articles of incorporation. This document has since been impressively framed and guarded, and hangs in the most imposing place in the board room of the main office of the company at Cleveland.

Sitting at the right hand of the various Standard officials who will attend the banquet will be the 37 "50-year men" of the company. Three of them, J. T. Sencabaugh, William Roehl and A. T. Bohmer, are still in active service.

The other 34 have received the diamond-studded pin and pension which goes to a Standard Oil annuitant.

Some of the men who have made the oil industry what it is today who will be at the banquet include:

A. H. Sus, Sinclair Refining Co., Chicago; Harry Fuller, Sinclair Oil Co., Los Angeles; John Willing and L. B. Davis, Cities Service Oil Co., Cleveland; W. F. Dailey and J. A. Strong, Shell Petroleum Corp.; H. M. Dawes, president, Pure Oil Co., Chicago, and L. S. Wescoat, Pure Oil; R. S. King, president, and W. E. Talbot, general manager, The Refiners Oil Co., Dayton, O.; Sam Eckert and J. N. Pew, vice presidents, Sun Oil Co., Philadelphia; F. B. Wright, The Texas Co.; R. A. Browne, vice president, and Charles Suhr, The Pennzoil Co., Oil City; Deacon Walsh and Chalmer Burns, Richfield Oil Co., Los Angeles; L. P. St. Clair, Union Oil Co., Los Angeles; T. J. Hilliard, president, Waverly Oil Works Co., and Raymond Hilliard, Pittsburgh, Pa.; H. B. Earhart, president, and H. S. Coffin, vice president, White Star Refining Co., Detroit; also Frank Book, of the Book-Cadillac Hotel, Detroit, and many others.

Former Prairie Head Dies in Georgia

CLEVELAND, Jan. 7.—John Foster Archbold, former president of the Prairie Oil & Gas Co., died at his home at Thomasville, Ga., on Jan. 5 after a brief attack of pneumonia. He appeared to be in good health Thursday but was stricken with pleurisy Friday morning and died Sunday. He was in his 53rd year.

Mr. Archbold was the son of the late John D. Archbold who was president of the Standard Oil Co. of New Jersey at the time of his death. He entered the oil business as a laborer at Mannington, W. Va., after his graduation from Yale in 1899. Later he visited every oil field in the world on a cruise and then entered his father's offices in 1901.

During the next 10 years Mr. Archbold took an active part in the development of the old Standard Oil Co. He resigned his position as president of the Prairie Oil & Gas Co. in 1909 because of ill health and moved to Georgia where he acquired a 10,000 acre plantation and engaged actively in farming and stock raising.

As a memorial to his father Mr. Archbold founded a modern hospital

at Thomasville and provided an endowment of $1,000,000. He gave generously to many causes but kept these benefactions secret.

Funeral services will be held Jan. 9 in the chapel of Sleepy Hollow Cemetery, Tarrytown, N. Y. Survivors are his wife, May Barron Archbold, three children, Richard, Adrian and Frances, and two sisters, Mrs. Michael M. VanBeuren of Newport, R. I., and Mrs. Anne Archbold of Washington, D. C.

Program and Exhibitors For National Oil Show

CHICAGO, Jan. 4

A WIDE range of subjects of interest to oil men, ranging from the code of ethics down to the problems of the filling station owner, as well as an exhibit of all the latest in the oil equipment line, will feature the coming convention of the National Oil Show, Inc., at the Sherman Hotel, on Jan. 19 to 25, according to Lou Harrington, managing director.

The program calls for an open forum Jan. 20, at which subjects of general interest will be discussed. Following the open forum, five round table meetings are scheduled covering these topics: Getting the Money out of Grease; Stopping Gasoline Losses; All about Super Service Stations; Bookkeeping Records for Oil Marketers; and Service Station Management.

On Jan. 24, Homer Buckley of the Buckley-Dement Co. and president of the International Advertising Direct Mail Association, will speak on "Can the Oil Marketer Build Business by Mail."

The chief speaker on Jan. 22 will be Gordon Lee, vice president of the Oildraulic Lift Co., Memphis, and formerly a member of the automotive division of the U. S. Department of Commerce. His subject will be "What the Automotive Manufacturer has Learned that can be Applied to the Oil Petroleum Marketer."

There will be no general morning sessions, which will be left open for meetings of various oil groups. The Dixie Distributors, Blue Pennant Association of Chicago, the Automobile Associated Trades, Inc. and the Illinois Filling Station & Garage Owners Assn. are to hold convention sessions during the week.

Following is a list of companies who will have exhibits as issued by Mr. Harrington: Alemite Corp., Chicago; American Appliance Co., Inc., Kalamazoo, Mich.; American Concrete Marbelite Co., Chicago; American Ideal Sign Co., Marion, Iowa; American Signs Corp., Kalamazoo, Mich.; American Steel Works, Kansas City, Mo.; Battenfield Grease and Oil Corp., Kansas City, Mo.; Benjamin Electric Mfg. Co., Des Plains, Ill.; Bennett Pumps Corp. and Service Station Equipment Co., Muskegon, Mich.; Bonnett-Brown Corp., Chicago; Butler Manufacturing Co., Kansas City, Mo.

Fred G. Clarke Co., Chicago; Cleveland Brass Mfg. Co., Cleveland, Ohio; Columbian Steel Tank Co., Kansas City, Mo.; Consistometer Corp., Chicago; Crane Co., Chicago; Dover Stamping & Mfg. Co., Cambridge, Mass.; Electric Service Supplies Co., Chicago; Enameled Steel Sign Co., Chicago; Ferro Machine & Foundry Co., Cleveland, Ohio; General Porcelain Enameling & Mfg. Co., Chicago; Globe Machinery and Supply Co., Des Moines, Ia.; Graver Corp., East Chicago, Ind.; Gray Co., Inc., Minneapolis, Minn.

Haeger Printing Co., Chicago; Hansen Manufacturing Co., Cleveland, Ohio; Huffman Manufacturing Co., Dayton, Ohio; Irving Cloud Publishing Co., Chicago; Janssen-Ostertag Mfg. Co., Kansas City, Mo.; King Luminaire Co., Chicago; The Liquidometer Corp., Long Island City, N. Y.; Macbeth-Evans Glass Co., Charleroi, Pa.; Martin and Schwartz, Inc., Buffalo, N. Y.; McSavaney Co., Springfield, Ohio; Merit Equipment Corp., Cleveland, Ohio.

Mid-West Forging Co., Chicago; Moore and Kling, Inc., Boston, Mass.; Morrison Brothers, Dubuque, Iowa; National Brake and Electric Co., Milwaukee, Wisc.; National Cantube Co., Chicago; National Enameling & Stamping Co., Milwaukee, Wisc.; National Tire Dealers Assn., Inc., Akron, Ohio; Oil Products Appliance Co., Maywood, Ill.; Oil Service Equipment, Chicago; Omar Refining Co., Tulsa, Okla.; The Palm Brothers Decalcomania Co., Cincinnati, Ohio; Perfection Manufacturing Co., Minneapolis, Minn.; Petroleum Age, Chicago; Petroleum Marketer, Chicago.

Pittsburgh Equitable Meter Co., Pittsburgh, Pa.; Quaker Mfg. Co., Chicago; Pyrene Manufacturing Co., Newark, N. J.; Romort Mfg. Co., Oakfield, Wisc.; Rotawasher Corp., Cleveland, Ohio; E. T. Sadler Co., Chicago; Standard Steel Works, North Kansas City, Mo.; A. J. Stevens Grease and Oil Co., Kansas City, Mo.; Tide Water Oil Sales Corp., Chicago; United Display Service, Inc., Chicago.

Union Metal Manufacturing Co., Canton, Ohio; United States Air Compressor Co., Cleveland, Ohio; Vacuum Oil Co., Chicago; Warner Manufacturing Co., Minneapolis, Minn.; Warner Patterson Co., Chicago; Western Union Telegraph Co., Chicago; A. W. Wheaton Brass Works, Newark, N. J.; Wilmoh Manufacturing Corp., Chicago and Wolverine Porcelain Enameling Co., Detroit, Mich.

Program Planned for New England Meet

NEW YORK, Jan. 4.—Arrangements are being completed for the 6th annual convention of the Independent Oil Men's Association of New England, which will get under way Jan. 22, at the American House, in Boston. The convention will continue for three days, closing Jan. 24 with the climaxing banquet that evening.

Hand bills announcing the event have been mailed to all members of the association as well as to other persons who would be interested in attending. They announce that 60 exhibitors will display newest equipment; the American Petroleum Institute's Code of Marketing Practices will be discussed and that speeches will be made by several men prominent in the oil industry. According to P. A. Brewer, of Cambridge, convention manager, space for a few exhibition booths was available on Jan. 4.

There will be no charge to the exhibition hall; the association aims to defray expenses through funds derived from luncheons and banquets. One thousand dollars has been spent for entertainment and those who attend are assured of some of the best talent available.

The entire program has not been completed but Mr. Brewer has announced the following:

James M. Curley, newly-elected mayor of Boston, will make the opening address Wednesday, Jan. 22. Major Charles T. Harding, also of Boston, will add a few words of welcome. Another speaker, as yet unannounced, will make a brief address on the safest methods of handling petroleum products.

William S. Youngman, lieutenant governor of Massachusetts, will address the convention on Thursday and Capt. Frank Hawks, Texas Co., pilot of international renown, will speak on aviation.

Friday's meeting will be given over to general discussions and to an address of some official of the A.P.I. who will speak on the code of marketing practices. This speaker also has not been selected.

Crude Production in Texas to Mount Despite Extension of Proration

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Jan. 4

THE question of what Texas is going to do with a mounting tide of crude oil production in 1930 is now uppermost in the minds of the southwestern industry.

Curiously enough, in the face of effective prorating in West Texas and the extension of this practice to newer fields elsewhere in the state, the general territory is faced with at least maintenance of present production levels and perhaps material increase in output.

The year 1929 ended with Texas producing 823,250 barrels daily, compared with daily averages of 873,000 barrels in July and 745,000 barrels last January. The state's high mark of the past was attained last August, with 880,000 barrels daily average for the month and 903,000 barrels average for the last week.

Beginning Jan. 1, 1930, the Darst Creek field in the Luling fault zone, Central south Texas, became the source of approximately 15,000 barrels of prorated crude not hitherto exploited.

The new Van field in the Van Zandt county division of the East Texas region is expected to reach 25,000 barrels exploited production within 90 days, because of operations made necessary by leasehold requirements, notwithstanding the unitized character of field development. Present production there approximates 6500 barrels daily.

One-well fields scattered throughout the state will call for enough new work to increase their production 10,000 to 15,000 barrels daily, in the aggregate, over the next few months. No such fields appear threatening at present, but even nominal yields from them will offset natural declines from older territories.

In some of the older areas, notably the Greater Wichita Falls district and the Gray county division of the Panhandle region, recent development work brought production to levels in excess of demand. Some reduction in production there has been brought about by prorating practice or cessation of drilling activities following warnings issued by crude oil purchasing agencies.

Pipe line runs are being cut 20 per cent in the flush Finley-Brown and Bower-Jackson areas of Gray county, in the Panhandle. Curtailment of pipe line runs and purchases had previously ranged as high as 50 per cent in parts of Gray county, the newly inaugurated practice being more in the nature of an adjustment of conditions than representing any further cut in oil handled.

In the Wilbarger county division of the Greater Wichita Falls district, where crude supply had exceeded demand for the oil, Humble Pipe Line Co., and Sinclair Crude Oil Purchasing Co., announced that effective Jan. 1 they would reduce runs 50 per cent.

Later, this declared intention was rescinded in part by Humble Pipe Line Co., which Jan. 1 began purchasing 50 per cent of the oil from properties to which it is connected and storing 50 per cent for the account of the producers. Humble announced its usual storage charges would apply, namely three cents a barrel a month, storage charge, and three per cent reduction a year for evaporation and other losses.

Decision to share storing facilities was made by Humble after Wilbarger operators had protested against the first announced intentions of the purchasing agencies, declaring that to exploit most of the wells at one-half their present production would prove injurious to them.

The operators pledged that they would not drill more wells, and that those under way would be stopped on top of the pay, until a later date when the slowing up of drilling activity had reduced production to actual crude demand.

Major companies on the one hand, and "Bob" More, manager of the W. T. Waggoner Ranch Properties, took no part in the meeting at which operators pledged themselves to cooperate in dealing with the Wilbarger situation. Mr. More is described, however, as being agreeable not to enforce clauses in Waggoner ranch drilling contracts which call for continuous operation of leasehold properties. All but approximately 2000 barrels of

The Texas Crude Oil Situation

TEXAS as a whole now producing 823,250 barrels daily, compared with July daily average of 873,000 barrels and January average, year ago, of 745,000 barrels.

Prorating continues effective in West Texas sulfur crude region, where individual companies with excess transportation facilities are, in some cases, scrambling for oil.

Yates field of Pecos county is principal area where potential production exceeds exploited quantity. Trunk pipeline outlets are for 430,000 barrels, compared with runs approximately 300,000 barrels daily. Production is below 340,000 barrels daily and total crude distribution, including pipe lines, tank car shipments and runs to refineries local to region, is 350,000 barrels daily.

Inauguration of prorating in hitherto unexploited Darst Creek field of Luling fault zone adds 15,000 barrels daily to state's daily average yield. Van field in East Texas, now exploited at approximately 6500 barrels daily, will reach possibly 25,000 barrels daily this spring because of drilling requirements, notwithstanding unified development program.

Wilbarger division of Greater Wichita Falls district is under cooperative development in the sense that producers have pledged themselves to drill no more wells and to shut down present operations on top of the pay until crude demand equals supply. Pipe lines are prorating crude or storing part of oil for account of producers where supply exceeds demand.

Gray county division of the Panhandle region is under 20 per cent cut back of production, because supply of crude exceeds demand of purchasers.

the 32,000 barrels daily average Wilbarger production comes from some part of the Waggoner ranch.

The first 16 wells tested for prorating purposes in the Darst Creek field averaged 1152 barrels daily capacity, as compared with an average of 550 barrels shown by the first 55 wells drilled in the Salt Flat field. Both fields are in areas of *en echelon* faulting, Salt Flat northeast of Luling a few miles in Caldwell county and Darst Creek similarly southwest of it in Guadalupe county.

Twenty-two wells have been completed in the Darst Creek area, 17 of which at present participate in the prorating practice applied. The five wells not figured in the prorating total belong to Magnolia Petroleum Co., whose pipe line will run its own oil on a similar fractional basis to that applied by companies participating in the cooperative plan.

Under the prorating plan, The Texas Pipe Line Co. and the Humble Pipe Line Co. each will provide 5000 barrels daily outlet for crude for participating companies. Total potential production Jan. 1 of the various companies participating in prorating was distributed at follows:

Empire Gas & Fuel Co., one well, 900 barrels; Humble Oil & Refining Co., three wells, 4184 barrels; Kirby Petroleum Co., one well, 120 barrels; The Texas Co., two wells, 1774 barrels; Trinity Drillers, Inc., one well, 320 barrels; United North & South Developing Co., one well, 1056 barrels.

Magnolia Petroleum Co. had five producing wells capable of producing 7962 barrels. Its maximum reached by applying similar fractions to those used by companies participating in prorating amounted to 5218 barrels, allowable production, daily.

Based on unit allowances of 294 barrels each for wells about to be completed, plus tested production of exploited wells, The Texas Co. has a daily prorating allowance of 2533 barrels in the first semi-monthly period; similarly allowing for units soon to come on production, Humble Oil & Refining Co., started off with daily allowance of 4266 barrels.

Other daily allowances by companies are as follows in the first prorating period:

Empire Gas & Fuel Co., 833 barrels; Gulf Production Co., 294 barrels; Kirby Petroleum Co., 366 barrels; Penn Oil Co., 294 barrels; Trinity Drillers, Inc., 486 barrels; United North & South Developing Co., 926 barrels.

Including the prorating outlets of 5000 barrels each provided by The Texas and Humble companies, plus the Magnolia's runs of its own oil on the fractional basis mentioned, the Darst Creek field hereafter will figure in production statistics in excess of 15,000 barrels daily.

The general plan of Darst Creek prorating follows closely the system previously applied successfully in the Yates field of the West Texas Permian salt basin region. At Darst Creek, however, the field is divided into 20-acre producing units instead of 100-acre units as in Yates.

Prorating is applied 50 per cent on average potential production of Darst Creek wells on each 20-acre unit and 50 per cent on the acreage unit itself. In the Yates field the factors mentioned have been applied, respectively, 75-25 per cent.

In West Texas, where trunk pipe line capacity totals 430,000 barrels daily and where prorating has been practiced effectively throughout the last year, or longer, runs at the end of December averaged 300,000 barrels daily.

Total distribution of West Texas crude, however, included approximately 20,000 barrels daily of tank car shipments via railroad loading racks and approximately 30,000 barrels daily supplied to refineries local to the region, accounting all told for 350,000 barrels daily. Production had declined below 340,000 barrels daily, due to successful continuance of prorating in other flush fields and the dropping of Winkler county yields to less than 90,000 barrels daily.

In Winkler county, particularly, there had appeared an adjustment in the crude situation to take up slack in line capacity of certain transporters. Atlantic Pipe Line Co., which supplies the parent Atlantic Refining Co. with crude shipped via its Gulf Coast terminal, increased its runs at the end of December to 38,000 barrels daily, as compared with approximately 25,000 barrels daily earlier in the month.

The Atlantic in December made a second contract with Gulf Production Co., for 5000 barrels daily of Winkler crude at the posted price, effective Jan. 1, and applying for a year. A similar contract was made with the Gulf last October by the Atlantic, the new purchase bringing the total of such bought oil up to 10,000 barrels daily. As the Gulf's Winkler production amounts to only about 8500 barrels daily a part of the Atlantic's contract crude will come from field storage.

Atlantic also purchased for a period of six months, beginning Jan. 16, the Winkler crude produced by the Texas State Oil Co., and the Cranfield Bros. Oil Co., at the posted price. The amount of oil involved in this contract now amounts to approximately 1300 barrels daily.

The Texas Pipe Line Co., with a system capable of handling 50,000 barrels daily, was running approximately 26,000 barrels daily at the turn of the year.

Shell Pipe Line Corp., with 80,000 barrels capacity, was running between 52,000 and 58,000 barrels daily. It was reported at the end of the week taking over a short pipe line of the Ed A. Landreth interests, Fort Worth, connecting the Taylor-Link and Rowan-Tong areas of Pecos county with loading rack facilities near McCamey, Upton county.

McCamey is the West Texas concentration base for the Shell's salt basin crude, hence it may be assumed the Landreth line will become a feeder for its general system. Landreth production and other purchased oil, now amounting to a few thousand barrels daily from the Pecos areas west of Yates field, thus go to the Shell hereafter.

Pasotex Pipe Line Co., subsidiary of the Standard Oil Co. of California and companion corporation to the Pasotex Petroleum Co., operating an El Paso refinery, has been running nearly 7000 barrels of Winkler crude daily, compared with line capacity of 18,000 barrels.

Magnolia Petroleum Co. is averaging approximately 20,000 barrels daily compared with 32,000 barrels capacity. Illinois Pipe Line Co. subsidiary of Ohio Oil Co., averages 42,000 barrels daily from Yates field, compared with 50,000 barrels capacity.

Humble Pipe Line Co., with 110,000 barrels daily capacity from the whole of the sulfur crude region, reduced its runs at the end of December from 97,000 to 86,000 barrels daily. Gulf Pipe Line Co., with 50,000 barrels capacity, was averaging approximately 30,000 barrels runs daily.

Considering Texas as a whole, its production of 823,250 barrels daily at the end of 1929 compared with 745,200 barrels daily average in January and 872,900 barrels in July. The Gulf Coastal region accounted for 138,850 barrels daily at the end of the year in contrast to 113,900 barrels in January and 127,000 barrels in July. The rest of the state had to its credit at the end of December, 684,400 barrels; comparing with 631,300 barrels in January and 745,900 barrels in July. All figures shown are gains over the 1928 daily average.

Promising New Canadian Oil Field

TORONTO, Ont.—"The Moncton oilfield in New Brunswick amazed me when I visited it this summer," said Brig.-Gen. Charles Hamilton Mitchell, dean of the faculty of Practical Science of the University of Toronto, in speaking recently at a banquet tendered in his honour by the Engineering Institute of Canada at Toronto. "In my opinion it will rival the now-famous Turner Valley field in Southern Alberta, which is producing remarkably well."

Russia exported 358,000 barrels of diesel oil to Spain in 1928, compared with 68,000 barrels shipped by the United States, these two countries holding first and second places as Spain's chief sources of supply.

Kettleman Hills Shut-Down Endangered By Demands of Property Owners

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, Jan. 3

NEGOTIATIONS that have been held during the past month between executives of the Petroleum Securities Oil Co. and leaders in the California oil industry whereby production in the Kettleman Hills would be held to a minimum are threatened with failure as a result of the desire of property owners to realize on their good fortune.

Petroleum Securities Felix 1, situated on the east flank of the structure and approximately one mile northwest of Milham Exploration Co.'s discovery well is to be completed according to E. D. Reiter, chairman of the Kettleman Hills conservation committee. All efforts to hold production in this well, which is located on fee land, in abeyance until July 1931 were frustrated by the attitude of property owners and operators.

Under present plans it is provided that the returns from oil from the Felix shall be prorated among the offset owners in a manner similar to that agreed upon among operators holding government permits. It is reported that a difference of opinion exists as to a suitable percentage of the sale value of the oil that shall be distributed among the offset operators. It is expected 10 per cent will be agreed upon, at least for the present.

General Petroleum Corp.'s Ochsner No. 2 on Sec. 26 will also be completed but will be immediately shut down in oil, that is providing commercial production is obtained. General Petroleum Co.'s well is approximately six miles to the southeast of the discovery well on the eastern flank of the structure.

The managing committee of the Ventura Avenue field has drawn up a tentative outline for the curtailment of production of that field during the coming months. It is provided in this agreement that the potential and allowable production figures for the field shall be based upon the production of oil and gas rather than according to the production of gas alone. These figures to be set by the umpire rather than by the managing committee in such a manner that there shall be no waste of gas.

The tentative January curtailment schedule calls for a cut of 22.17 per cent of an oil potential of 61,671 barrels for the field giving an allowable production of oil of 47,999 barrels. Gas production is to be cut an amount varying from 21 per cent on some leases to 58 on others and an average for the field of 43 per cent. It is estimated that this cut will reduce the potential gas production of 281,-972,000 cubic feet to an allowable output of 161,606,000 cubic feet for the field.

In the report issued by the umpire for the month of December it was indicated that 1,580,913 barrels of oil and 5,215,814,000 cubic feet of gas had been produced or a daily average of 50,997 barrels and 168,-252,000 cubic feet. The allowable production of gas was 4,650,000,000 cubic feet or 565,814,000 cubic feet under the actual output for the month, an average per day of 18,-252,000 cubic feet.

DUE to the greater demand for natural gas in the winter months an allowable production of 161,606,000 cubic feet is not expected to work undue hardship on the operators so that waste of natural gas at Ventura Ave. it is hoped will be a thing of the past as soon as the plan becomes operative.

With production at Elwood reported to have been 27,924 barrels on Jan. 1, and 27,771 barrels on Jan. 2, and the daily output at Long Beach reduced to 105,000 barrels as of Jan. 2, Santa Fe Springs is the only flush California field not entirely regulated.

Umpire Paul Grimm's report for the Elwood filed stated that 975,085 barrels had been produced during December from 22 wells giving a daily average of 31,454 barrels for the same number of wells. Since the total allowable production for the field was set at 930,000 barrels the field showed a total excess of 45,085 barrels during the month notwithstanding drastic curtailment programs adopted by the operators.

The potential production during January is set at 52,350 barrels per day for the Elwood field. With an allotted production during January of 30,000 barrels and an excess 1454 barrels produced daily during December the allowable production for the period Jan. 1-15 is set at 28,546 barrels per day.

In the umpire's report issued Jan. 1, and covering curtailment period Jan. 1 to 15 it was announced that as new wells have been completed at Santa Fe Springs it became evident that operators with small properties or production, who were not completing wells were at a disadvantage. Their production under a strict application of the curtailment figures was threatened with a reduction that amounted in some cases to a point of inequity.

To prevent any such hardship to the small companies the umpire set the daily allowable production in an arbitrary manner.

The report shows that during the month of December 5,119,850 barrels of oil were produced at Santa Fe Springs, an average per day of 165,-157 barrels. The field was allowed under the report covering December to produce 4,073,999 barrels or 1,045,-851 barrels less than the amount actually produced.

For the coming two-week period, Jan. 1 to 15 the umpire set a potential for the field of 331,261 barrels. With an allotted production of 150,000 barrels for all operators and an excess production during the latter half of December of 13,135 barrels the allowable production for coming period was set at 136,865 barrels per day, making a total allowable production during the first half of January of 2,052,975 barrels.

Production at "The Springs" is expected to reach its most critical point during the period Jan. 15 to Feb. 15, as further completions are made in the Clarke and underlying Hathaway sands. Umpire Grimm expects to be able to hold the daily output down to near the desired figure over this time and to reduce it even further as soon as natural decline begins to take its toll of daily output.

LOS ANGELES, Jan. 6.—The Lincoln Drilling Co. has moved its offices from the Quinby Bldg., to the Security Title Insurance Bldg. at 530 West 6th St.

Review of Late Production News

GAINS of 20,000 barrels each in two Oklahoma fields brought the country's daily average production to 2,652,300 barrels the week ended Jan. 4, according to the American Petroleum Institute. This represents an increase of 44,600 barrels over the week ended Dec. 28.

Crude oil imports fell off 81,430 barrels, being at the rate of 205,430 barrels daily average the week ended Jan. 4. Total new crude supply fell 36,830 barrels, to 2,857,730 barrels the past week.

Earlsboro and Oklahoma City pools made the large gains, production in the former increasing 19,450 barrels daily average, and in the latter 20,250 barrels. St. Louis pool fell 2300 barrels.

Winkler county decreased 2450 barrels. Salt Creek was up 7000 barrels and Santa Fe Springs 6500 barrels.

California

PRODUCTION of oil on the Pacific Coast showed an increase of 7500 barrels over the estimated figure for the previous week to give a total of 696,300 barrels daily average for the state.

Month end completions at Santa Fe Springs boosted that field's daily average yield to over the 167,700 mark. This increase in the most troublesome of flush fields was not as great as during the end of the period, Dec. 1 to 15. Numerous wells scheduled for completion during the coming month are expected to raise the state's daily average above the 700,000 barrel mark, although natural decline may offset the addition of flush oil.

California oil field workers are suffering lay-offs, notwithstanding efforts of companies to adopt four and five day weeks. Development work in the California fields is being held up pending demand for greater production.

Although leasing activity in the Venice field of the Playa Del Rey district is on the increase no operator has announced his intention to spud in and it is thought that active drilling will not commence for at least two weeks or a month.

Standard Oil Co. of California completed its well, 8-1P, on the north dome of the Kettleman Hills for an initial production of 4000 barrels of oil and is drilling out the cement in its 81-11P, the other offset to Milham's discovery well.

Current production in this country by pools is found on page 89.

Oklahoma-Kansas

SEVEN new wells were added to the Oklahoma City pool during the week. The best of them exceeded 1000 barrels an hour initial. None of them could be regarded as especially extending production. They were for the most part lime wells along the north-south axis of the pool between ranges 2W and 3W.

In the Seminole area the week was marked by increasing activity in the area south of the Little River pool, opened by the Gilcrease-Cromwell sand strikes recently. Thirty operations are either starting or under way in the 6N-6E pool, known as the Konawa area. Cromwell sand gas was also encountered for the first time in Twp. 7N-4E, two townships northwest of the Konawa strike. The Konawa wells were reported as holding there their production satisfactorily after first declining rather sharply.

West of the Allen pool in Twp. 5N-7E the interest in Wilcox sand possibilities was revived by a 3000 barrel well deepened from the Cromwell sand. Wilcox dry holes lie a quarter mile to the south, but there is nothing much to condemn the area north and west of the new well.

Twenty-five active locations are now reported from the Voshell pool, Kansas, which now has five wells totaling 5000 barrels daily.

Texas, New Mexico, Louisiana

THE sixth deep test on the east flank of the Moss Bluff salt dome proved the seventh oil field in Liberty county, South Texas, when the Humble Oil & Refining Co. completed No. 6 R. S. Sterling for 800 barrels daily of pipe line oil at 5666 feet.

West Texas salt basin production of sulfur crude has dropped below 340,000 barrels daily, compared with 430,000 barrels pipe line capacity, due to continued operation of prorating practice and declines in Winkler county output to less than 90,000 barrels daily.

Crude oil congestion continues in the Wilbarger county division of the Greater Wichita Falls district and localized overproduction is found elsewhere in Texas. Prorating practice was officially inaugurated in the Darst Creek area of the Luling fault zone, northeast of San Antonio, Jan. 1.

In North Louisiana, principal attention centers on the Zwolle area of northern Sabine parish, where the first "gusher" well, completed in chalk rock formation late in November, continues to produce 3100-3500 barrels daily under one-quarter-inch choker. Twenty odd tests are being drilled in the general area.

Wyoming, Montana

IN ANTICIPATION of good production from the new border field, lying partly in Alberta and partly in Montana, the Maple Leaf refinery at Coutts, Alberta, will increase the capacity of its plant and lay a pipe line to the field as soon as weather conditions permit.

The Argo Royalties Co., Denver subsidiary of the Midwest Refining Co., has recently taken over all of the royalties which it did not hold belonging to the Montana Pacific Oil Co. in various proved and unproved acreage in Montana.

Interesting deep tests in the Dallas Dome and Derby Dome fields, oldest in Wyoming, have proved commercially productive in the Tensleep sand, hitherto untested. Field produces black oil of a very good grade.

Highline structure wildcat, being drilled by the Argo Oil Co., has had the long fishing job finally completed, and after casing is re-run, drilling is to be resumed to the deeper horizons. Highline structure is in Mesa county, Colorado.

Zwolle and Carterville Hold Spotlight In North Louisiana

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Jan. 2

INTEREST in North Louisiana oil development centers on two districts. One is the Zwolle territory, in northern Sabine parish, where a first "gusher" well was drilled in, Nov. 26, 1929, by R. L. Gay, Trustee. The other area is near Carterville, northern Bossier parish, where S. P. Borden's third producing well tested 500 barrels, initial production, in Blossom sand pay at 3127 feet, in 31-23-11.

Production in the general North Louisiana region approximated 38,000 barrels daily, Jan. 1, comparing with 37,000 barrels daily 12 months earlier. The gain was entirely attributable to the Sabine territory, where the Gay well in 34-8-12, four miles east of Zwolle, is still flowing 3100 to 3500 barrels daily, under one-quarter inch choke, from chalk rock pay at 2413 feet.

Four other wells of the Gay interests, in 14-7-14, southwest of the Zwolle "gusher" 12 miles, were good for approximately 1000 barrels daily at similar chalk rock levels, giving Sabine parish virtually all the flush oil in North Louisiana.

5000 Barrels of Flush Oil

The five Sabine wells mentioned and Borden's newest Carterville completion accounted for approximately 5000 barrels daily of the only oil in North Louisiana that could be in any sense considered flush. Some 30-odd wells in the comparatively new Dixie division of the old Caddo district, about nine miles from Shreveport, never attained economic importance because of their small caliber and recent pumping characteristics.

Completions of the type of the Dixie wells and others drilled from time to time in old fields have been able barely to maintain North Louisiana production at the 33,000 barrel daily level after deducting the flush mentioned from the region's general total. This is in line with the normal decline of production in older territory.

In the Carterville territory, Borden's third producing well is about one mile north of his No. 2, which continues to flow approximately 200 barrels daily of 44 degrees A.P.I. gravity oil. There is no water in the No. 3 well and the pay has been penetrated only two and a half feet.

A number of wells in the Carterville region are being deepened from the old gas horizon, found about 100 feet higher than the oil pay. This deepening work will give future clews to field limits and will indicate the worth of the territory for crude production, which may prove of local importance but of little economic significance.

Bradley District Picks Up

The Carterville situation has revived interest in the Bradley, Ark., area, where the Arkansas Natural Gas Co., in 1925, drilled four small oil wells. This is 10 miles north of Carterville development. Bradley production amounts to 100 barrels daily from Blossom sand at the 2800-foot level.

Only slight dropping off in production since 1927 is shown by the Bradley wells, and the discovery completion is now making more than its original 25 barrels. Considerable water, however, accompanies the oil.

It is proposed now to test oil saturated sands found in redbeds when the discovery well was drilled to 3100 feet, before plugging back to its exploitation level.

Tests Under Way

TESTS under way in the Zwolle territory, northern Sabine parish, north Louisiana, exclusive of those to be drilled by S. D. Hunter, The Texas Co., and Frankel Bros., include the following:

Tarver and others, southeast corner, northwest quarter, 27-8-12; and southeast corner, southwest of northeast, 27-8-12.

Arch Haynes, southeast corner, northeast quarter, 28-8-12.

Tippett and others, southwest corner, northwest southwest, 36-8-12.

Ruston Drilling Co., southwest corner, southwest northwest, 35-8-12.

Ohio Oil Co., Northwest corner, southeast quarter, 35-8-12; and northeast corner, southwest southeast, 33-8-12.

Olson Bros., southwest corner, southeast quarter, 27-8-12.

Anderson and others, southwest corner, northwest quarter, 19-8-12.

Stovall Drilling Co., southwest corner, east half northwest quarter, 35-8-12.

R. L. Gay, Trustee, northwest corner, northeast quarter, 3-7-12.

George Le Grande, northeast half of northwest quarter, 6-7-12.

Lide and others, near center of 31-8-12.

THE currently more active Zwolle territory has been the scene of leasehold transactions involving fully $750,000, and calling for the drilling of more than 20 wells in the immediate future. Much of the acreage near the Gay "gusher" was already under lease, so that transactions frequently involved trading on acreage already taken up by other than present owners at relatively low prices.

Two transactions by Sam D. Hunter and the Sabine Lumber Co., resulted in Hunter acquiring upwards of 22,000 acres for $240,000 and the drilling of 10 wells. Hunter first acquired leasehold rights on 10,000 acres in four townships and ranges for $150,000 and obligation to drill five wells. Then he obtained 12,000 acres more leaseholds from the same interests for $90,000 and five wells.

Louisiana Standard Acquires Acreage

Standard Oil Co. of Louisiana later took over a half interest in part of Hunter's leaseholds, for $75,000 cash and a contract to drill five of the 10 wells mentioned. In addition, the Standard paid $25,000 for other leaseholds acquired in the territory.

Frankel Brothers, of New York City, who operate in Texas as the Texas Unity Oil Co., at Dallas, spent $55,000 for leaseholds in the Zwolle territory; The Texas Co., $60,000; Ruston Drilling Co., $40,000; A. H. Tarver and others, $30,000; Olson Bros., $8,000; Tippett and others, $8,000; Ohio Oil Co., $125,000; Lion Oil & Refining Co., $25,000; Simms Oil Co., $22,000; Arkansas Natural Gas Co., $26,000; Amerada Petroleum Corp., $20,000; the Benedum-Trees interests, $10,000; Dixie Oil Co., Inc., $15,000; and Louisiana Oil Refining Corp., $10,000.

Two test wells each are called for in lease contracts made by The Texas Co., Frankel Brothers, Ruston Drill-

ing Co., and A. H. Tarver and others. Obligations of Olson Bros., and Tippett and others, call for one test each. Ohio Oil Co. has no immediate drilling obligation on its acreage but is going ahead on two tests.

Standard Pipeline Co., Inc., subsidiary of Standard Oil Co. of Louisiana, is taking the oil from the Gay "gusher," having connected to it with 4-inch and 6-inch pipeline laterals tied-in with its earlier Sabine parish system.

Something in excess of 80,000 barrels of crude has been run from the Gay "gusher" since its completion late in November. As previously mentioned, its choked production has been recently between 3100 and 3500 barrels daily, but open flow estimates credit it with possibly 12,000 to 15,000 barrels daily of 41.5 degrees A.P.I. gravity oil.

Unit Development to Be Pushed By Association Committee

Staff Special

TULSA, Jan. 4

HAVING endorsed, in principle, unit development of oil pools and made some headway on the formulation of a working code, or declaration of methods to be employed, the Mid-Continent Oil & Gas Association is ready to complete this latter phase of the task and to promote as widespread application as possible of unitization of leases.

President William N. Davis, of the association, this week announced the appointment of a committee of 26 members, pursuant to resolution adopted by the directors of the association on Nov. 26. First meeting of the committee will be held Jan. 22 at 10:30 a.m. in association headquarters in Tulsa. It will organize, choose its chairman and appoint whatever sub-committees may be required.

The committee is as follows: C. C. Herndon, vice-president, Skelly Oil Co., Tulsa; Dana H. Kelsey, vice-president and general manager, Prairie Oil & Gas Co., Independence, Kans.; James A. Veasey, general counsel, Carter Oil Co., Tulsa; J. Edgar Pew, vice-president, Sun Oil Co., Dallas.

E. T. Moore, president Simms Oil Co., Dallas; D. J. Moran, president, Continental Oil Co., Ponca City, Okla.; R. F. MacArthur, vice-president, Barnsdall Oil Co., Tulsa.; H. R. Straight, vice-president, Empire Companies, Bartlesville, Okla.; Ben H. Stephens, vice-president, Magnolia Petroleum Co., Dallas; John R. Suman, vice-president, Humble Oil & Refining Co., Houston; E. R. Filley, division manager, The Texas Co., Tulsa.

T. J. Donoghue, vice-president, The Texas Co., Houston; P. N. Wiggins, Jr., vice-president, Peerless Oil & Gas Co., Tulsa. Paul S. Ache, president, Reiter-Foster Oil Co., Tulsa; James A. Green, Shell Petroleum Corp., Tulsa; Burdette Blue, vice-president, Indian Territory Illuminating Oil Co., Bartlesville.

George D. Foster, vice-president, Devonian Oil Co., Tulsa; Comer Plummer, division manager, Pure Oil Co., Tulsa; J. S. Bridwell, independent producer, Wichita Falls, Tex.; J. D. Collett, independent operator, Fort Worth; J. R. Penn, independent operator, Fort Worth; J. F. Lucey, independent operator, Dallas.

T. B. Hoffer, Hoffer Oil Corp., Fort Worth; Frank Cullinan, vice-president, Republic Production Co., Dallas; W. B. Hamilton, independent operator, Wichita Falls; E. H. Blum, vice-president, Atlantic Oil Producing Co., Dallas.

E. H. Williams

Recently appointed chairman of the committee on standardization of cable tool joints of the American Petroleum Institute. Mr. Williams is works manager of the National Supply Co., Toledo, O.

This committee, according to the resolution that authorized its appointment, is charged with the duty of "securing the general adoption of the unitization practice and of issuing a handbook on the subject for general circulation."

In his letter announcing the appointment of the committee Mr. Davis said that there is some material ready which the committee may find suitable for inclusion in the handbook, such as the exhibits attached to the report on unitization prepared by another committee for the annual meeting. He said that the work which the American Institute of Mining & Metallurgical Engineers is doing on the scientific and economic phases of the subject will produce valuable additions to the handbook.

"The work of this committee," said Mr. Davis, "will involve considerations of suggestions for better organization of the promotion of unitization practice which, in turn, will call for educational work leading to a better understanding of the details by executives, land men and lease brokers."

New Chemical Plant At Oklahoma City

TULSA, Jan. 4.—Construction will be started early in February on the first unit of a chemical plant to process salt water that is produced with oil in the Oklahoma City field. The plant will be in or near that city and the first unit will handle 25,000 barrels daily.

Dr. Otto V. Martin, inventor of a process for the extraction of various chemicals from salt water, heads the group that will build the plant. Dr. Martin has been in Oklahoma for several years and built a plant employing his process at Sand Springs, Okla., utilizing water produced in oil wells in that area. Last summer he installed a small experimental plant in the Oklahoma City field to obtain data as to methods that would be required in the commercial plant.

Dr. Martin says his principal products will be bromine, iodine and calcium chloride. The production of bromine is especially significant as it is a principal ingredient in the tetra-ethyl lead used in blending with gasoline, the result being known as Ethyl gasoline. A ready market is assured for this product, as more and more refiners are turning to Ethyl gasoline. The Oklahoma City water is said to be rich in bromine.

CLEVELAND—N. Finestone of the Arthur G. McKee & Co., engineers and contractors here, recently returned from Roumania and Germany after one and a half year's work installing and placing into operation several pipe stills built by the McKee company.

The Editors' Viewpoint

National Petroleum News

Politicians Have Only One Creed—Raise Taxes

WHY is it, when a tax commission is appointed in a state, after a comparatively short time spent in casual study of its subject in a sleepy, lackadaisical manner, it announces brightly that the thing to do is tax the principal industry of the state a little heavier and impose an income tax upon individuals and corporations?

These are the Great Specifics to cure a pain in the treasury. Tax commissions never get farther than this. The state of Kansas supplies the latest instance. It couldn't keep its books balanced, so the job was shoved off on a commission. That is another device of the experts. Secretary Mellon is the only one in public life in recent times who has done his work without setting up a committee of the best minds to help him.

The Kansas commission ran true to form and behaved according to the established traditions. It looked over the field and found that the oil industry occupied a fairly important place in economic affairs of the state. Arguments by the oil men, showing the dismal status of most of the oil properties in Kansas, were brushed aside.

Aren't all oil men rich? Well, let's sock 'em. So, unless the legislature weighs facts more carefully than did the commission, Kansas producers will find their taxes practically doubled, as an average, according to the figures compiled by the Mid-Continent Oil & Gas Association.

The commission recommends that the 2 per cent tax be in lieu of the present ad valorem taxes collected by counties on the value of the oil properties but not in lieu of taxes on equipment. Now, let's not be confused as to what would happen. The present system is handled by the county assessors. They arrive at a valuation, for tax purposes, on a per barrel basis. Thus, production in one pool may be valued at $500 per barrel. Under the commission's proposal that revenue would be taken away from the counties BUT they still would tax equipment. Is there any doubt that the county assessors will tax this for all the traffic will bear? We think not.

The commission rather apologetically, it seems, prefaces its remarks on gross production taxes by feigning a reverential regard for the public interest in oil resources. That shopworn old theory has been bandied about for years. It is a convenient fiction in the hands of politicians. As a matter of legal fact the only one who possesses title to the minerals is the man who has had title issued to him and the public has nothing to do with it.

State officials from time to time have made high collar speeches about their duty to save some of this "irreplaceable wealth" before it got past so that future generations would enjoy the fruits of wise government. All that happens is the collection of more money to be squandered foolishly.

The Kansas tax commission wholly overlooked the obvious remedy for the state's financial plight. No mention was made of reducing expenses. Some wise governor, more daring than the rest, some day will set about to make income match expenses and even pare the latter.

All over this broad land corporations are sitting up at night planning economies. The big spending spree which began with the war is over and the pace will be more sedate from now on. But the last people to find it out will be the "public servants."

The best defense is a powerful offense. We hope the oil industry of Kansas will show the people of Kansas that, no matter how much more revenue is raised by adopting the proposals of the commission, it will be no permanent relief and that the politicians will be back, before long, for more money. It can show, by specific example, how money can be saved by the state government and taxes left alone.—L. E. S.

A Simple Task Needs Tackling

THE proposal to find a standard, practical method for taking the temperature of petroleum products in tank cars should not be allowed to drop because a convenient organization for carrying on such work does not at present exist.

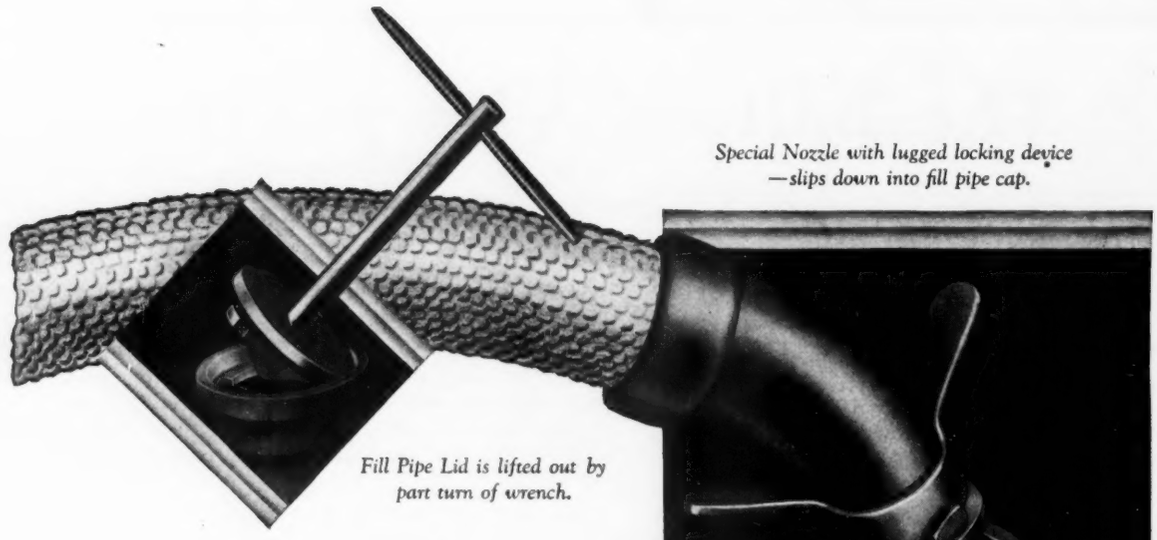
At the institute meeting in Chicago, the general institute committee on railroad transportation decided the subject was outside its province and was something the sales division of the industry should undertake. Since this committee now has a sub-committee studying good practice in gaging tank cars, it would seem that this committee could have had its duties enlarged sufficiently to urge the general use of a standard method of taking the temperature of the contents of the car.

Refinery technologists of the Western Petroleum Refiners Association, at a meeting in October in Tulsa, asked the president of that association to appoint a committee to help in obtaining and giving publicity to a standard method of taking tank car temperatures. Perhaps this organization will have to proceed alone with the work.

A study of this subject made some months ago by NATIONAL PETROLEUM NEWS showed a number of methods used by the larger oil companies and considerable bad practice by numerous small companies through ignorance of proper methods to follow.

This matter does not seem so much a problem of finding the one way of taking temperatures which is correct to the nth degree, as it is to find some one way which everyone can be induced to use. A great part of the controversies between refiners and wholesale purchasers over outage of gasoline shipments seem to arise through the fact each party is using a different method of taking the car temperature.

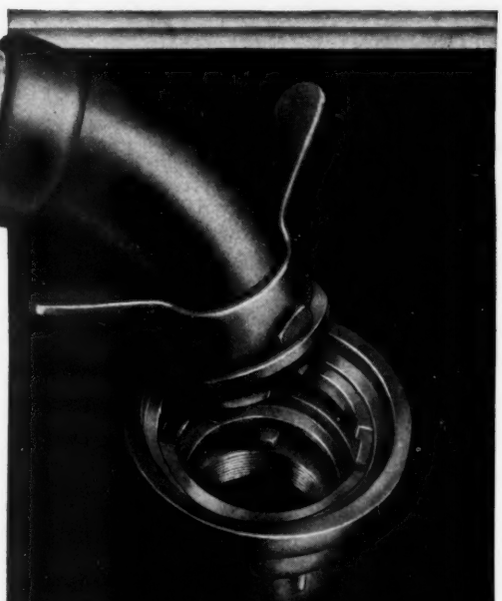
Here's a good chance for some organization, perhaps some individual even, to do a good turn for the industry by forgetting red tape and precedence and getting this work started.—V. B. G.



Special Nozzle with lugged locking device —slips down into fill pipe cap.

Fill Pipe Lid is lifted out by part turn of wrench.

CONNECTIONS are made so much QUICKER *with this Fill Pipe Coupling*



Part turn of wings on lugged locking device makes the connection TIGHT

CONNECTIONS on the effluent end of the hose are made far *quicker* and with infinitely greater *ease* by means of the Wheaton Quick Fill Pipe Coupling.

The special Fill Pipe Cap is screwed onto the fill pipe and *left* there. The special Hose Nozzle (with lugged locking device) is simply screwed onto the *effluent* end of the hose and left *there.* To connect the delivery hose, the Cap lid is simply lifted out by a part turn of the wrench, the nozzle is slipped down into the Cap, and a part turn of the lugged locking device makes the connection *tight.*

Send today for a sample of the Wheaton Quick Fill Pipe Coupling. Test it for 30 or 60 days. If it does not *prove* that it will save enough *time* to pay for itself many times over, return the coupling for credit or refund.

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IT LOOKS sort of home like to meet James H. Dye on the street each day or so. Jimmy is now thoroughly established here as vice-president of the International Derrick & Equipment Co., having jurisdiction over sales in Oklahoma and Kansas. Back in the eastern territory this department grew accustomed to meeting Jimmy Dye everywhere that more than two people got together in the name of petroleum or natural gas. He was then manager of the Charleston, W. Va., producing division of the Pure Oil Co. To this task he devoted several years, escorting the Cabin Creek field through its infancy and adolescence. He was active in such associations as the old Natural Gas Association of America and the West Virginia Oil & Gas Association, of which he was one time president. Conventions just weren't official without him.

Resigning from his position with the Pure Oil Co. last summer, Mr. Dye joined the Ideco organization, whose general offices are in Columbus. We felt the pity that an old-timer in a community always feels for a newcomer and were trying to think of some way of getting Mr. Dye started off properly when we discovered that his acquaintance in Tulsa was greater than ours.

Mr. Dye's long experience as a producer, first as an independent in the southeastern Ohio territory and later in the Pure Oil ranks, with his wide acquaintance and ability to add to it, fits him well for the work he is doing and if Mr. Runkle back there in Columbus doesn't realize all this, he is not the astute man we always credited him with being.

* * *

F. W. Shelton, vice president and petroleum engineer in charge of production for the Reiter-Foster Oil Co., Tulsa, resigned, as of Jan. 1. His new connection will be announced in the near future.

* * *

G. W. Jennings has been made superintendent of production in the Seminole district for the Indian Territory Illuminating Oil Co., succeeding J. J. Lawry who has been transferred to Oklahoma City as assistant superintendent.

* * *

"I thought from the first that he was from Pennsylvania," said a Mid-Continent engineer speaking of a superintendent he had just met. "He talked about 'bar'ls' of oil. A little later he referred to the 'dunkie' pump he was using and then I knew he was a Pennsylvanian."

* * *

Related by Kenneth Covell, chief production engineer of the Indian

James H. Dye

Territory Illuminating Oil Co., in the "News," company publication:

"A humorous event is said to have taken place on a well being drilled by Company X in the Oklahoma City field where a tool pusher went on the derrick floor and found one of the roughnecks sitting on the first derrick girt with a section of one-inch pipe in his hands. The rest of the crew were back in the engine room deep in the mysteries of a crap game and the sole watchman on the derrick was pounding the 'dead line' so as to cause the weight indicator to show vibrations similar to drilling."

* * *

Attempt at fancy writing in Muskogee, Okla., Phoenix, in re the secretary of war: "Thinking of Pat Hurley I am reminded of a poem in which Kipling said, 'or it's literally true that he can talk with graduates and keep his virtue or walk with kings nor lose the common touch.'"

* * *

It is being noised about the state of Oklahoma that Frank Buttram would make a good governor and there is some talk that he may expose himself to the democratic nomination this (1930) year. Mr. Buttram is a geologist who got into the operating end and by judicious investments in properties that turned out well has placed himself in financial position to live on the meager salary paid a governor. He lives in Oklahoma City.

* * *

Victor H. Smith, who heads the White Oak Refining Co. and the Gulf States Terminal & Transport Co. has been elected president of the Caravan Oil & Refining Co., Oklahoma City. He succeeds H. B. Van Hoosen.

* * *

Frank Barron has been transferred by the Gulf Production Co. to Big Spring, Texas for the past five years he has been in lease and scouting work for this company at Wichita Falls.

* * *

Albert A. Potter, head of the Ethel Corp., an Okmulgee company which contracts for the drilling, pulling and shooting of wells, has obtained patent on a new time bomb for exploding nitroglycerin charges. Mr. Potter is also conected with the Bond Torpedo Co.

* * *

The Ponca City Specialty Corp., of which L. M. Robinson is president, is moving its plant from Blackwell to Ponca City. It will shortly be on production with two new specialties. One is a working barrel designed by L. J. Mildren, former superintendent for the Marland Oil Co. and the other is a time bomb invented by A. R. Peters, Winfield, Kans.

* * *

Wirt Franklin, prominent operator and his associate in the Cromwell-Franklin Oil Co., J. I. Cromwell, have jointly purchased a Buhl Airplane and now make their trips to Tulsa from Oklahoma City in this manner. A former army flyer, Lieut. Paul Hefner, is pilot. Another Oklahoma City

Gas vacuum line of Naylor Pipe at St. Louis, Oklahoma. 40'0" joints, 16" diameter.

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NAYLOR PIPE costs less per foot in the ground than any other pipe carrying standard weight pressures. No other pipe can be laid as cheaply.

Naylor Pipe is the lightest of all pressure pipe. It weighs only half as much as standard weight wrought pipe.

This light weight is a money saving advantage. It means half the freight to pay; half the weight to haul; half as many men needed for handling in the field; speedier laying. These advantages lower your pipe line costs.

Besides light weight, Naylor Pipe is also made of Toncan Iron for greater resistance to rust and corrosion. Longer life of the pipe means fewer renewals..consequently, lower maintenance costs.

Lay your next pipe line at the lowest cost per foot in the ground. Naylor Pipe will help you to do it.

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Standardized Naylor Pipe is made in sizes 6" to 12" I. D. and 14" to 20" O. D. in any uniform length desired up to 40' 0". Ends made to wrought pipe standards for all types of coupling.

Where corrosion resistance is not a factor, Naylor Pipe can be furnished in steel.

Toncan Copper Molybdenum Iron is a development of Central Alloy Steel Corporation, the world's largest and most highly specialized alloy steel producers. It possesses a superior corrosion resistance, making it the favored pipe material.

man who comes to the fairly frequent operators' meetings in Tulsa is Glen Harroun, district superintendent for the Sinclair Oil & Gas Co., who flies his own ship.

* * *

Roy D. Gwynne, former resident of Tulsa, returned for the holidays. Mr. Gwynne is making Beckley, W. Va., his temporary home. He is vice-president and general manager of the Amere Gas Utilities Co., of St. Louis. The company has laid gas lines into several Kentucky towns and at present is laying one to Evansville, Ind., from fields of northwestern Kentucky.

* * *

Married: In St. Louis, Harrison G. Davies, president of the Superior Oil Corp., Tulsa and Mrs. Iva Thorpe, Tulsa.

* * *

Married: In Kaw City, Okla., Miss Lurena Ellis, Kaw City and William E. Bagby, Tulsa. Mr. Bagby is with the Tidal Oil Co.

* * *

Nominations, invariably equivalent to election, for officers of the petroleum division, American Institute of Mining & Metallurgy Engineers, honor Charles V. Millikan, Amerada Petroleum Corp., Tulsa, for the consistent work he has done in the division by proposing him for national chairman. The election will be formally announced at the New York meeting in February. Mr. Millikan was one time chairman of the Mid-continent section and during the past year has been national vice-chairman for production engineering. He will succeed, as chairman, Dr. Joseph B. Umpleby, Oklahoma City.

Other nominations: For associate chairman, L. L. Brundred, consulting petroleum engineer, Los Angeles succeeding A. C. Rubel, Union Oil Co. of California; secretary-treasurer, Dr. H. C. George, University of Oklahoma, succeeding Ernest R. Lilley, New York University, who was secretary and L. G. E. Bignell, Tulsa, who was treasurer; vice-chairman, production engineering, W. K. Whiteford, Barnsdall Oil Co., Tulsa, succeeding Charles V. Millikan; associate chairmen, production engineering, W. W. Scott, Humble Oil & Refining Co., Houston; Earl Oliver, Ponca City and Victor H. Wilhelm, Los Angeles.

For vice-chairman for economics, J. Elmer Thomas, Fort Worth, succeeding Warren A. Sinsheimer, Henry L. Doherty & Co., New York; vice-chairman for production, D. R. Snow, chief geologist, Barnsdall Oil Co., Tulsa. succeeding C. P. Watson, Federal Royalties Co., Fort Worth; vice-chairman for engineering research, Harry H. Hill, Standard Development Co., New York, re-election; vice-chairman for engineering education, Ernest R. Lilley, New York University, succeeding Dr. H. C. George.

The following were nominated for members of the executive committee: Dr. J. B. Umpleby, John R. Suman Humble Oil & Refining Co., Houston; Charles E. Beecher, Empire Oil & Refining Co., Bartlesville and J. A. Holmes, 2nd, Southern Crude Oil Purchasing Co. The outgoing executive

C. V. Millikan

committee consists of A. W. Ambrose, Empire Oil & Refining Co., Bartlesville; John M. Lovejoy, Petroleum Bond & Share Co., New York; Earle Oliver, Ponca City and A. W. Peaks, president of the Dixie Oil Co., Tulsa.

* * *

To Be Married: Miss Evelyn Gsell, Wichita, Kans. and Robert J. Given, of the Shell Petroleum Corp., Orange, Texas on Feb. 8.

* * *

A well known member of the Ponca Indian tribe, Arthur B. Lawrence, of New York, was host to the entire tribe during a 10-day encampment, lasting from Christmas until after New Year. Mr. Lawrence is a director of the Continental Oil Co. and member of the executive committee and is a partner in the banking house of C. C. Smithers & Co. Oh yes, we almost forgot to say that Mr. Lawrence is a member of the Ponca tribe by adoption only. He was recently given some long and quite unspellable name, with ceremonies befitting the occasion.

* * *

A. J. Becker, superintendent of Kansas production for the Phillips Petroleum Co., resigned effective Jan. 1. The company appointed R. E. Jolly to succeed him. Mr. Jolly has been assistant superintendent for the past five years and Mr. Becker's term of office was about 10 years. Kansas division production offices are maintained in El Dorado. It is understood that Mr. Becker will enter the drilling contracting business, in which he had some experience prior to joining the Phillips organization.

* * *

H. B. Thomson, who headed production engineering work for the Indian Territory Illuminating Oil Co. in the Seminole district, has joined the production engineering staff of the Pure Oil Co., Texas division.

* * *

C. A. Delcant, Kansas division superintendent for the Barnsdall Oil Co., recently underwent an operation in Wichita in which his right leg was amputated at the knee. He is recovering but will be confined to the hospital for some time.

* * *

Died: Near Enid, Marion Parr, Tulsa lease broker, 52 years old, from being burned to death in his car. His widow and one son survive him.

* * *

Died: In Knoxville, Iowa, J. B. Elliott, retired banker and father-in-law of Waite Phillips, chairman of the board of the Independent Oil & Gas Co. Mr. and Mrs. Phillips went by airplane to Knoxville for the funeral.

* * *

A. C. Jackson, vice-president of the Wiser Oil Co. and affiliated companies, Sistersville, W. Va., with Mrs. Jackson will leave New York Jan. 21 for a world tour. They will return next May.

* * *

M. M. Kornfeld, micro-paleontologist for the Shell Petroleum Corp. at Dallas and Houston is taking graduate work at Leland Stanford University. He received his A. B. degree in geology from this school in 1927.

* * *

Glenn W. Clark, formerly of the Legal firm Aby & Tucker, Tulsa, has joined the legal department of the Empire Companies, Bartlesville.

* * *

Ten Years Ago

(From National Petroleum News, Jan. 7, 1920)

What is described as a "war for crude" begins with advance of 25 cents on Mid-Continent crudes by Sinclair Oil & Gas Co. New price $3.00.

Cosden & Co. contract to deliver to Standard Oil Co. of Indiana 85 million gallons of gasoline and 42½ million gallons of kerosene in 1920.

Ohio Cities Gas Co. buys control of Oklahoma Producing & Refining Corp.

William R. King, vice-president and director of the Standard Oil Co. of New York, dies.

Murray M. Doan resigns as second vice-president and manager of the Gypsy Oil Co.

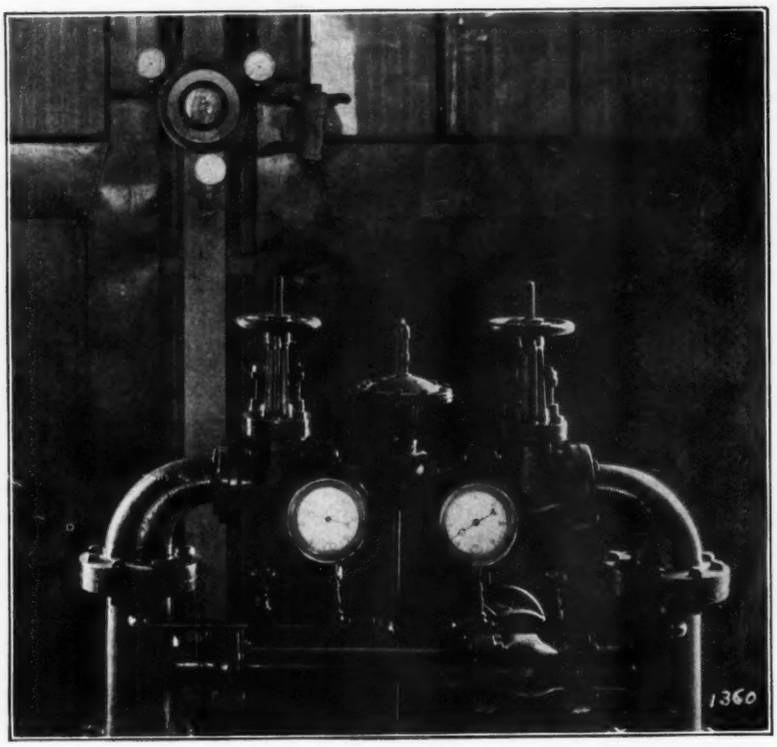
D. R. Weller elected president of the Standard Oil Co. of Louisiana, succeeding Col. F. W. Weller and Cal K. Clarke elected vice-president, succeeding D. R. Weller.

W. S. Miller retires as chairman of the board of the Standard Oil Co. of California.

Osage Oil & Gas Lessees association organized.

Tycos Steam Boiler Gas Fuel Governor

(Pilot Operated)



Tycos Steam Boiler Gas Fuel Governor (Pilot Operated), maintaining constant steam header pressures on natural gasoline plants by controlling the gas fuel supply to a battery of eight boilers.

THIS installation insures constant steam pressures under varying load conditions by properly regulating the gas fuel supply to the burners. Full steam pressures are maintained under extreme operating conditions, thus insuring a high efficiency and consistent operation of the boiler plant.

Once adjusted to the desired steam pressures, the *Tycos* Regulator will maintain such pressures without adjustment or further attention from the engineer. Having a high degree of sensitivity its response to steam pressure changes is immediate. Its operation being essentially throttling, only the exact required amount of gas is admitted to the burner at all times

The *Tycos* Steam Boiler Fuel Governor may be applied to a single boiler, or with a control valve and the gas header, to a battery of boilers. When applied to a battery, a boiler can be cut in or taken out without any variation in steam header pressure, due to the action of the regulator and compensating for such changes.

Write for additional information on this installation and others for the oil and gas industry.

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INDICATING - RECORDING - CONTROLLING

Oklahoma City Pool Adds Seven Wells; South Seminole Area Active

By John Power
N. P. N. STAFF WRITER

TULSA, Jan. 4

LIKE a machine gun firing in bursts, seven new wells rattled the boards in the Oklahoma City pool during the week. Particularly vicious was the attack on Friday, Jan. 3, when four new wells came in, making it the biggest day for the pool so far from the standpoint of completions.

With this example before them, the other areas of Oklahoma and Kansas bestirred themselves in like fashion, although nothing new in the way of territory was opened.

In spite of the number of new wells, little territory was added to what was already regarded as proven in the Oklahoma City pool. Most of them were strung out along the north-south axis of the pool, and in all cases there was production ahead of them.

Perhaps the best of the wells to be completed during the week was the Coline Oil Co. No. 1 Warren, in the SW of 18-11-2W, which started off at better than 1100 barrels an hour. The well, producing from the lime, was accompanied by the usual 50 million or so of gas.

In spite of proration under the alternate well plan, production from the field was at a high level during the week, holding close to the 100,000 barrel per day mark. On Friday, when several wells had to be shut in again in accordance with the operating plan, the total for the field fell off again, dropping to 66,494 barrels from 18 wells as compared to nearly 110,000 barrels from 22 wells the day before.

Any 22 wells that can make an aggregate of better than 100,000 barrels in 24 hours constitute an oil field in any man's language. And when it is remembered that there are nearly twice as many wells, equally good, shut in in the same field at the time, it is easy to see that the Oklahoma City field constitutes a problem of no small proportions, for the time being at least.

There is considerable argument, both among production men and observers, as to how long such a rate of flow could be maintained, but it is considered a safe bet that the field could produce enough oil long enough to make it tough on the crude oil market at the present time.

Elsewhere in this issue is discussed the new plan for holding the production within limits which operators in the pool arrived at in a meeting held during the week.

Oil fields have at least one thing in common. They have a habit of coming to life when according to all indications, they have been dry holed to death. Witness the Wilcox area in Twp. 5N-7E, west of the Allen pool. What Wilcox has been found has been rather disappointing in its quantity, and has been irregular. Nothing to it, was the general opinion as to its possibilities.

And now comes the Sinclair Oil & Gas Co. with its No. 5 Jefferson, NW NE SE of 23-5-7 and upsets the dope. An old well in the Cromwell deepened to the Wilcox, it is making some 3000 barrels per day from the latter formation, encountered at 4208-29. It was aided and abetted in this enterprising day's production by a 20 quart shot.

A quarter mile to the south of the new well are two Wilcox dry holes. But immediately surrounding the well there is ample room for an oil field. This is particularly true of the territory to the west of the Jefferson lease, which has not been prospected very thoroughly yet. It is more likely that this new well will have quite a lot to do with the future work that goes on among the sand hills and black jacks which make up the scenery in this part of the state.

And as exhibit No. 2 in the case of rejuvenated oil fields the Sasakwa pool might easily be used. Early in its life dry holes and rapidly declining production caused it to be classed among the "almost" pools. Development has continued slowly, though, until there are now 25 wells making upward of 16,000 barrels total production per day.

THE latest producers to be added were drilled in along the western edge of the pool, and are both good for upwards of 1200 barrels per day, each. They are the Pure Oil Co.'s Nos. 6 and 7, Bates in the SE NE NE and NE SE NE, respectively of 13-6N-7E. Althought not considered a real threat, enough of pools of this sort can combine to produce a lot of oil in a day's time.

And then there is the Gilcrease-Cromwell sand play spreading all through the southern part of the general Seminole area. In this region the two sand bodies lie so close together that it is difficult to distinguish them. Some geologists call the pay one thing, and some another. To the land departments, it is a pay that will produce wells capable of making better than 1000 barrels per day, so lets go.

The first place that the Cromwell sand showed its head in any serious manner was in the gas wells along the eastern fringe of the Little River pool, southern member of the Seminole family. Then, as the Wilcox production in Twp. 7N-7E, became widespread enough for the pool to be given the name of East Little River, the Cromwell bobbed up again, with a couple of wells regarded as good for close to 3000 barrels per day. A restraining agreement has thus far kept this shallower pay from being developed in the East Little River pool.

AND then, and now, Konawa, in Twp. 6N-6E, immediately south of Little River. The discovery well here was first drilled to the Wilcox, where it was a failure. It was plugged back, and the pipe ripped, at the point where the Cromwell or Gilcrease as some have it, was logged. The well responded with a few hundred barrels a day, enough to justify the drilling of the south offset.

This well clicked to the tune of some 1800 barrels a day, from which point it has declined to about 1300 barrels. The east offset to the No. 2 well was drilled in as a good well, holding its production to about 1200 barrels per day. The pipe in the discovery was ripped still more, and production increased to 800 barrels per day.

No agreement on curtailment has been arrived at as yet, with the result that there are now some 30 operations getting under way. It is felt that it may not be a bad idea, to find out just how serious this Gilcrease-Cromwell strata is about holding any oil fields of note. It is, however, true that drilling in one field makes it doubly difficult to restrain drilling in another.

The Cromwell-Gilcrease horizon

seems to be breaking out in a sort of rash all through the southern part of the Seminole area. Its latest appearance has been in a well drilled by the Magnolia Petroleum Co. in the NE NW of 21-7-4, where this formation is making some 15 million cubic feet of gas per day. A show of oil is also reported with the gas.

In Kansas, where daily production has been showing some increase fairly regularly of late, the Voshell area, McPherson county, continues the hot spot of the state. Some 25 operations are under way in the pool, which many consider as being the most important strike in the state for some time.

What may possibly be regarded as a limiting dry hole seems to be in the making a mile and a half north of the heart of the field. It is the Derby Oil Co. test in the NW SW of 34-20S-3W, which was a failure in the chat on top of the lime, and reported as running low on the marker formations. The east offset to this well is a gasser drilled by the Gypsy Oil Co. This latter well has been shut in, but its gas production has not been imposing enough to make it look particularly worth while.

The Texas Panhandle was more quiet than usual. Nothing in the way of new production was reported, and production for the area as a whole took a drop from that of the week previous. The operators agreement to cut the production of the Bowers-Finley-LeFors pools of Gray county was presumably put into effect, although the production average for Gray county did not show much of a decline. Gray county's 504 wells averaged 64,170 barrels for the week as against 65,710 for the week before. The Panhandle as a whole made a daily average production of 102,580 barrels from 1747 wells.

* * *

Notes on the Week

When not nibbled at by water encroachment, the lime wells at Oklahoma City can produce a lot of oil in a remarkably short length of time. The Mable Fuzzell well of the I.T.I.O. SW NW of 19-11N-2W has yielded to date a total of 908,903 barrels. This is spite of the time proration which has been in force against it.

The well was completed Sept. 6, and was shut in until Oct. 15. Its October-November proration, on a time basis was 40 per cent, and its November-December percentage was 60 per cent. Its initial production was 14,009 barrels, its peak about 16,000 barrels and a current gauge was 14,248 barrels in one day.

* * *

A well some 10 miles or so east and north of the Voshell pool of McPherson county, Kansas, has a fair showing in the chat on top of the lime. Not enough however to justify stopping in the formation instead of carrying the well on down to the Simpson and Wilcox below. It is in the SW SW NW of 21-20S-1W, and is making about five barrels an hour, along with one million cubic feet of gas.

* * *

Crude oil deliveries by the Prairie Pipe Line Co. for the month of December averaged 206,797.87 barrels per day, a total of 6,410,734.10 barrels for the month. This is slightly larger than the average for the preceding month, which was 206,173 barrels per day. December, a year ago daily average deliveries were 193,073.08 barrels.

Deeper Proration Cut Required In Oklahoma City Pool

Staff Special
TULSA, Jan. 4

OKLAHOMA CITY operators have found it necessary to revise their proration percentage for January, cutting production an estimated 50 per cent instead of 40. Performance of big wells in the field has made it impossible, under the system of alternately opening and shutting in half of the wells at a time, to hold to the figure of 84,000 barrels daily fixed by the corporation commission in its order prorating flush and semi-flush fields of the state. That was the figure fixed for January for Oklahoma City, based upon an estimated potential of 140,000 barrels which has been proved to be too low.

Actual production in the field hung around the 100,000-barrel daily mark for three days of the past week. On Dec. 31 the production was 109,029 barrels from 22 wells. A higher mark was reached during the 24-hour period ended at 7 a.m. Dec. 29. One figure placed the pool's output at roundly 121,000 barrels while another was 113,000 barrels.

Under the proration system employed, with some of the wells that are on production using up only a few hours of their time some days, it becomes increasingly difficult to tell where the matter stands. At any rate, either of the figures given marks the highest actual production in one day.

To effect the reduction by an additional 10 per cent the operators agreed in a meeting in Tulsa Jan. 3 to adopt a straight five-day on and five-day off program for the wells which are divided into "A" and "B" groups. This eliminates five days of overlap—days when both groups would have been on production at the same time—which figured in the plan for January.

This will call for a corresponding change in the February schedule, which will be worked out later and probably there will have to be a deeper cut, as it is now believed the potential will easily exceed the 200,000 barrels set up as the estimate several weeks ago.

It is thought probable that if the present method of proration is continued it will be necessary soon to throw in a time-lag between producing days. In other words, it will be necessary to include periods when all wells will be shut in. The constantly mounting production, now more than double the pipe line outlet from a field total standpoint, will make necessary some change, unless a percentage proration plan is substituted.

An attempt was recently made to change to the method of restricting flow of all wells but it failed when the consent of T. B. Slick was withheld.

Operators decided in the Tulsa meeting to begin experiments at back-pressuring, while continuing the time method of proration. Every well in the field is to be operated under varying degrees of back-pressure and records will be kept of the ratio of gas to oil under the different amounts of back-pressure. There is a point in every well where, under back-pressure, the gas/oil ratio will start to increase, frequently without any increase in total oil produced.

The Oklahoma City wells will be operated so as to determine the point where the gas "breaks through" and begins increasing in ratio of feet of gas per barrel of oil. A tentative understanding is that the experiments are to be made up to a reduction of 25 per cent in the production of oil in each well.

After such experiments have been continued throughout January, the data will be brought together and studied in the effort to adopt an operating policy covering the whole field. A more effective utilization of gas and the retarding of water encroachment are results sought, as well as reduction of the field's output to demand.

Serious enough as marking the early exhaustion of some of the wells, the salt water situation was emphasized late in December when the city of Shawnee, Okla., brought suit against all operators in the field asking for damages of $1,500,000 and an order restraining them from further alleged pollution of the North Canadian river, which runs near the field and which is the source of Shawnee's water supply. Hearing on the injunction was set for Jan. 6, in Shawnee. Operators are now working on a plan to keep the water out of the river.

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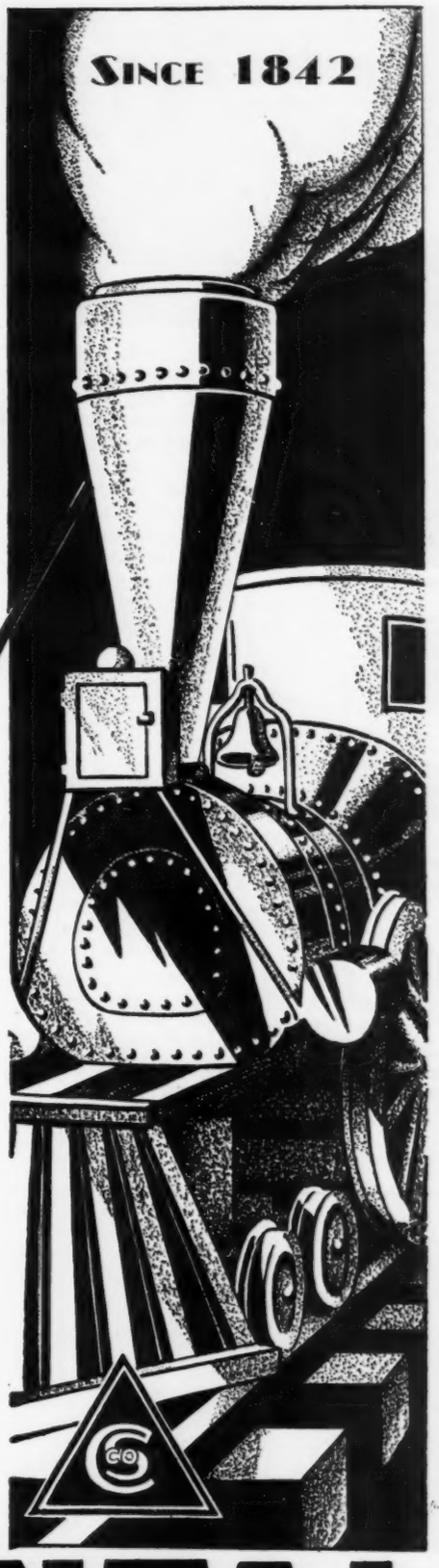

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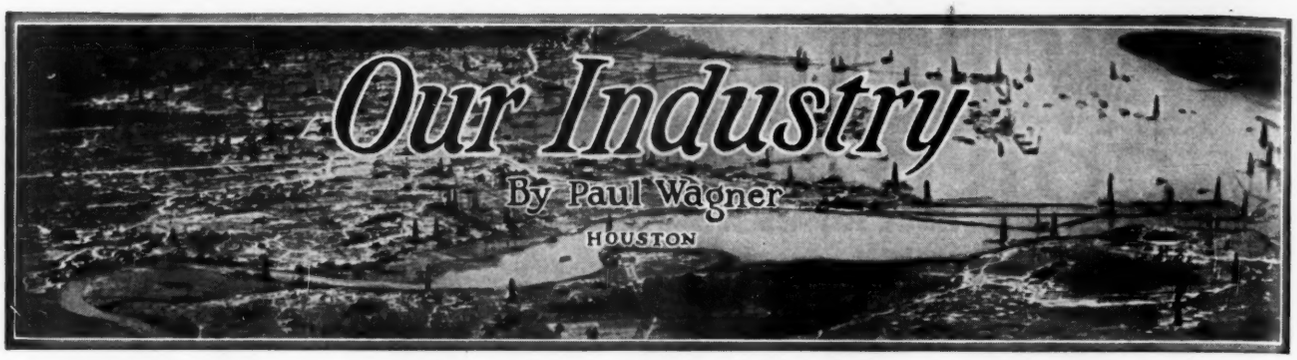
CONTINENTAL



A TANKER fleet of six vessels operated by the Continental Steamship Co., marine subsidiary of Continental Oil Co. of Delaware, has been renamed since the consolidation of the old Marland Oil Co. of Delaware and the Continental Oil Co. of Maine. The tankers now bear the names of D. J. Moran, president of the parent Continental Oil Co.; W. W. Bruce, executive vice president; Walter Miller, manufacturing vice president; Garnet Hulings, vice president and general manager of the Continental Steamship Co.; E. J. Nicklos, production vice president; and General Baird H. Markham, comptroller and assistant to the president.

Deadweight tonnage of 51,454 tons is represented in the six tankers, which came under Continental control through the consolidation mentioned and after acquisition by the old Marland Oil Co. of Delaware of the Prudential Oil Corp., at Baltimore, about a year ago. Ships of the Conoco fleet usually carry crude oil from Gulf Coastal, Venezuelan and Pacific Coast ports, but some of them are used at times for refined products.

* * *

The death of L. M. Stiles, formerly of Shreveport but more recently of El Paso, is reported in press dispatches. Himself an owner of extensive oil properties in the old Caddo district of Louisiana, Mr. Stiles was a brother of W. P. Stiles, the sole heir and executor of the estate, which has been estimated as worth $500,000. W. P. Stiles is himself an extensive owner of oil properties.

M. H. Hufham

* * *

Charles K. Longaker, now assistant to the president of The Texas Co., at New York City, was assistant manager of the refining department until his recent appointment. He has been identified with the corporation since 1906, when he started work as cashier in the general offices, then at Beaumont. After only a month, Mr. Longaker was transferred to Port Neches as chief clerk under R. C. Holmes, now president of the company. Mr. Holmes became manager of the refining department in 1907 and Mr. Longaker went with him to Port Arthur as cost clerk. When the refining department general offices were transferred to Houston in 1910, Mr. Longaker became department agent in charge of the newly organized accounting department. This position he held until 1920, when he was appointed superintendent of shipping. He became assistant manager of the refining department at Houston in 1923, going to New York in similar capacity in 1928. Mr. Longaker is a native of Pottstown, Pennsylvania.

* * *

Frank R. Harrison of the executive department of the Mexican Gulf Oil Co., at Tampico, is spending a five weeks' vacation in Houston and other Texas cities.

* * *

M. H. Hufham, of the Continental Supply Co., is widely known in the West Texas Permian salt basin oil producing territory, where he has been stationed for a number of years. He is store manager at McCamey, Upton county, from which supply base the surrounding fields in Pecos and Crane-Upton counties are served.

* * *

Ernest B. Wood, executive assistant in the Houston office of Sinclair Oil & Gas Co., has occupied a similar position with Hiram A. King, vice president, since his transfer to South Texas from Oklahoma six or seven years ago. When stationed in Tulsa, after his return from war service, Mr. Wood was in the right-of-way and claims department, where Mr. King then occupied a legal position.

* * *

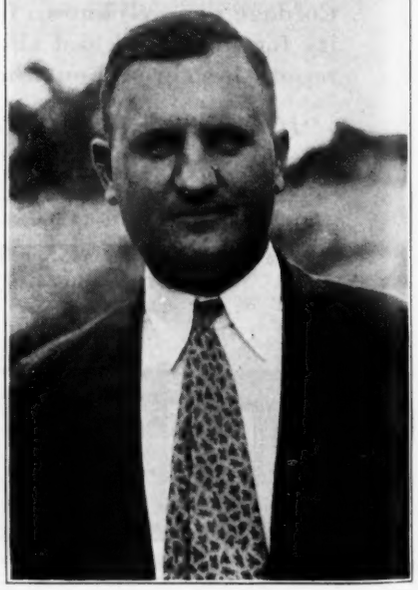
Dr. R. A. F. Penrose of Philadelphia, newly elected president of the Geological Society of America, is recognized as an eminent consultant in the field of mining geology. He was the donor of the Penrose medal of the Society of Economic Geologists for distinguished work in that branch and also of the Penrose medal of the Geological Society of America for conspicuous general geological research.

* * *

H. B. Swetland, formerly purchasing agent of the East Coast Oil Co. of Mexico, S. A., at Tampico, has been transferred to the Houston organization of the Southern Pacific railroad.

* * *

J. H. Pressley, executive assistant, and M. B. Sweeney, production manager, will maintain their respective set-ups in the Sun Oil Co.'s producing organization at Dallas under the



Ernest B. Wood

new system whereby J. Edgar Pew, vice president, will divide his time between the North Texas metropolis and Philadelphia. Because of his assuming a wider scope of activities, Mr. Pew's presence at the Sun's general headquarters in Philadelphia will be required to a greater extent than in the past. Whether he will remove there permanently in the future is yet to be decided.

* * *

F. A. Howard of the sales department of the Continental Oil Co., at Fort Worth, is in charge of tank car sales of petroleum products in Texas territory. He works with T. H. Lawson, Texas division manager, who makes headquarters at Wichita Falls. Mr. Howard was formerly connected with the Marland Oil Co., both at Fort Worth and its Texas City terminal, before its reorganization with the old Continental Oil Co. of Maine into the newer Continental Oil Co. of Delaware.

* * *

The recently announced transfer of W. C. Coolidge, formerly Shreveport division manager at Shreveport, to be assistant to the president of the Atlantic Oil Producing Co., at Dallas, has been followed by a number of other changes in the North Louisiana organization. E. H. Finch, division geologist, was transferred to San Antonio and Henry J. Morgan, Jr., paleontologist, to San Angelo. R. E. Whiting, production superintendent, was moved to Dallas; John Marston, division land man, to Dallas; J. E. Saunders, accounting department chief clerk, to Dallas; O. U. Robert, geological scout, to San Angelo; and L. H. Hutchinson to the Dallas engineering department. C. A. Strahan will continue to conduct a scouting organization at Shreveport. Production and drilling work will be carried on through A. S. Carruthers at El Dorado, Ark., and S. P. Elliott will have charge of the Atlantic Pipeline Co., as Haynesville, La., superintendent.

* * *

The conductor of this column acknowledges holiday greetings from the J. S. Abercrombie Co., Inc., drilling contractors and oil producers, Houston; James A. Bermingham, vice president, The Texas Co. of California, Los Angeles; R. W. Stone and Robert D. Breed, carload marketers, Houston; Lee E. Barrows, Fort Worth division manager, The Texas Co.; Howard Bennette, managing director, Western Petroleum Refiners Association, Tulsa; Walter R. Berger, geologist, Southland Royalty Co., Fort Worth; James W. Bradbury, assistant to the general agent, Mexican Gulf Oil Co., Tampico; Stanley P. Brown, general sales manager, Hughes Tool Co., Houston; Early Deane, drilling contractor, Hollywood, Cal.; D. A. Cant, Regan Sales Co., Dallas; Frank Cavenaugh, Darling Valve & Manufacturing Co., Houston; L. E. Delcuze, executive assistant, Gulf Pipeline Co., and Gulf Production Co., Houston; E. H. Devore, individual operator, Fort Worth; James A. Donan, Standard Oil Co. of New Jersey, New York City; L. H. Freedman, Snowden-McSweeney Oil Co., Fort Worth; M. R. Gayle, Jr., Lee C. Moore Co., Inc., Shreveport; Dana H. Kelsey, vice president, Prarie Oil & Gas Co., Independence; Arthur Knapp, United Gas Improvements Co., Philadelphia; D. J. McAuliffe and Holland S. Reavis, petroleum analysts, New York City; H. W. McCue, Piney Oil & Gas Co., Amarillo; Clarel B. Mapes, statistician, Mid-Continent Oil & Gas Association, Tulsa; Edgar J. Marston, president, Texas Pacific Coal & Oil Co., Fort Worth; Carl L. Mayhall, Anderson-Pritchard Oil Corp., Oklahoma City; Col. Dan T. Moore, Northern Pump Co., Houston; Cleve Phillips, The California Co., San Angelo; James M. Charlton, The California Co., Dallas; William A. Slimpin, Gulf Production Co., Houston; Ben K. Stroud, National Tube Co., Los Angeles; J. T. Stover, individual operator and drilling contractor, San Antonio; Earl A. Trager, chief geologist, Skelly Oil Co., Tulsa; John R. Suman, general production executive, Humble Oil & Refining Co., Houston; M. L. Latham, Humble Oil & Refining Co., Houston; R. W. Widener, individual operator, Los Angeles; Carl A. Young, standardization director, American Petroleum Institute, Dallas.

F. A. Howard

* * *

Ira McFarland, comptroller of The Texas Co., recently returned to Houston from a honeymoon spent in Hawaii with his bride, formerly Miss Minette Wanstrath of St. Louis. The marriage ceremony was performed at Sierra Madre, Cal., early in November, after which the pair left immediately on their honeymoon tour.

* * *

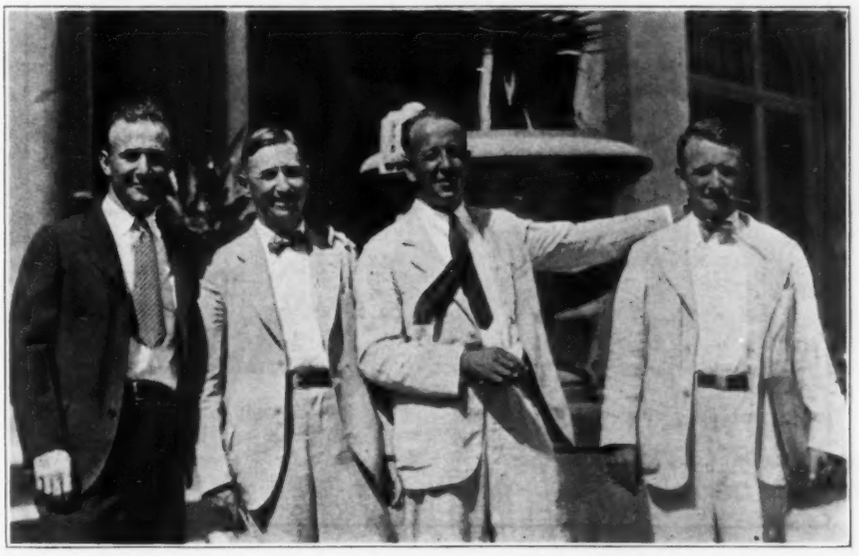
T. A. McAteer, geological scout for the Gulf Refining Co. of Louisiana, is now making headquarters at Meridian, Miss. He formerly worked in the El Dorado and Smackover, Ark., districts where he has been succeeded by W. G. Booth.

* * *

D. P. Hamilton, of the Root Refining Co., Shreveport, recently returned to his North Louisiana home after a business trip to Europe.

* * *

An accompanying snapshot of operating men connected with the Humble Oil & Refining Co.'s organization shows from left to right: George H. L. Kent, gas repressuring engineer attached to the Houston headquarters office; Hu. M. Harris, chief mechanical engineer, Houston; W. E. Hubbard, Panhandle division production superintendent, Amarillo; and W. W. Scott, chief petroleum engineer. All are widely known in engineering and operating circles.



George H. L. Kent, Hu. M. Harris, W. E. Hubbard, W. W. Scott

Standard Oil Co. Completes 4000 Barrel Well in Kettleman Hills Field

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, Jan. 4

CALIFORNIA'S production and development picture presented a somewhat bleak view to oil field workers as major and independent companies reduce drilling in the flush fields to a minimum. Leaders in the industry, who have been attempting to curtail production on the Pacific Coast to the point where it would be equal to the demand are faced with the problem of finding work for between 3000 and 5000 men. The question on all sides is, "How long will we be laid off?"

An indication of the attitude of the oil companies toward new development work may be seen from the lack of active drilling in the new field discovered by Ohio Oil Co., east of Venice. Leasing of land surrounding the discovery well is continuing at a rapid pace.

Property on the beach west of the well is held in the name of the Los Angeles playground department, which has now become interested in finding out what rights the department may have in oil discovered on the property, provided that the district is rezoned and opened for drilling.

The department claims that the beach would be ruined for recreational purposes if the adjacent land is opened to oil well drilling and it might therefore be advantageous to the department if an oil lease could be given on the property if the royalty from the oil would go to the department.

First active drilling is expected to be started by one of the independent companies that hold property surrounding the Ohio well. Cypress Petroleum Co., which controls 20 acres southeast and adjoining the Ohio lease, is expected to be among the first to spud in.

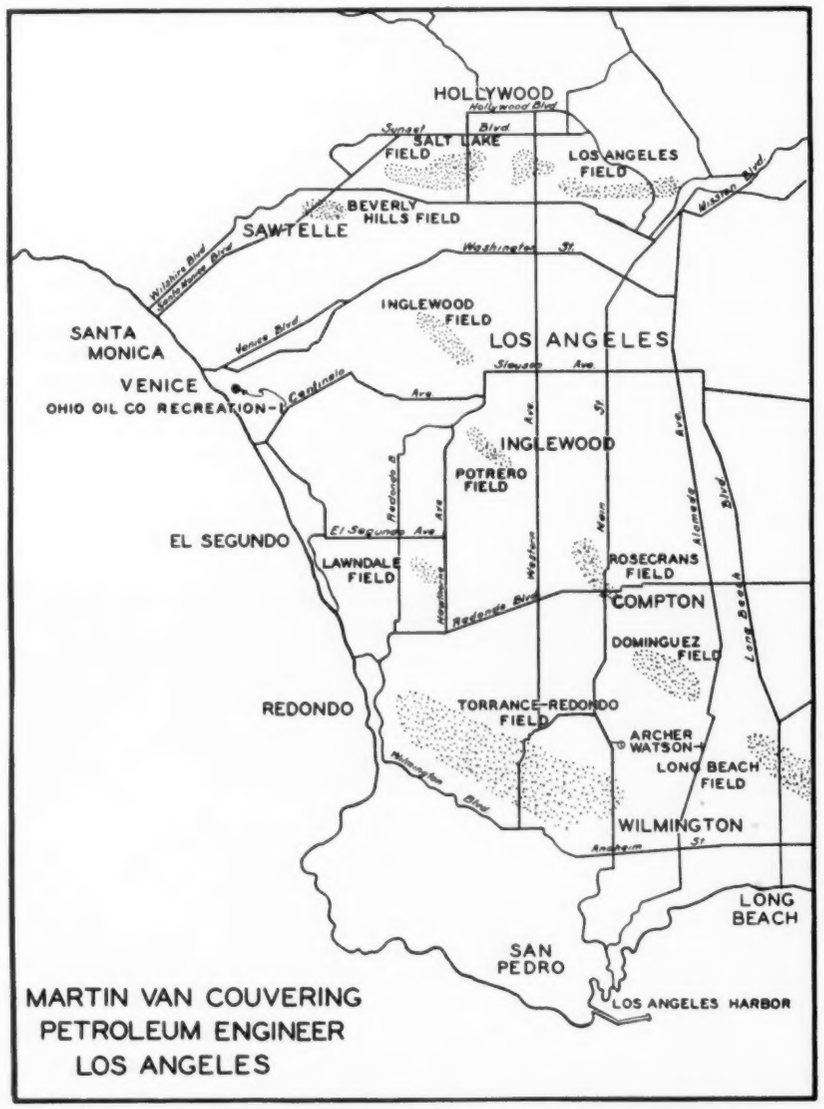
Conservation leaders are not worried by the threat of an increase to the state's output from completions in this field as it will take at least three months to drill the 6000 feet necessary. The Venice field will become another townlot area, although several large blocks of land are held by major companies.

Ohio's Recreation No. 1, the discovery well of the Venice field, continued to produce approximately 2000 barrels of 24 gravity oil daily. Gas production has built up to 1,250,000 cubic feet of natural gas that is reported to contain 3.73 gallons of gasoline per 1000 cubic feet. Until the storage that is being built is completed the oil is being tanked out of the field by truck.

Interest was revived during the week at Potrero, when Lyons & Bourdo's Blinn 2 came in from a depth of 4804 feet. Although casing pressure built up to 1000 pounds, the well failed to get on steady production. It flowed by heads several times and operators are very optimistic over the outlook.

A compressor will be used to aid in cleaning out the well after which a proper production test will be made. Water troubles encountered by other tests of the Potrero field may hamper operations in the Blinn well although company engineers are confident that they can "whip this bugbear."

Oil found in the Potrero field is of very high gravity, running as high as 48 degrees, and for this reason



Map showing location of new Ohio Oil Co. discovery with reference to other fields in Los Angeles basin

conservation leaders hope that exploitation of the deep sands will be delayed to some future date when light gravity oil is in greater demand, at which time it would undoubtedly bring a much higher price.

Production at Santa Fe Springs was estimated to have averaged 167,700 barrels during week ending Jan. 4, with the output topping the 170,000 barrel mark during the week.

Umpire Grimm announced in his report for the latter half of December that fifteen wells had been completed at Santa Fe Springs between Dec. 15 and 31, with an average potential of 3295 barrels each, giving a total of 49,435 barrels of new oil per day.

Of these 15 wells only two were completed in the O'Connell zone, the remainder being drilled into the underlying Clarke and Hathaway sands. Five wells were brought in from below the 8000 foot level, 6 below 7900 feet and two below 7800 feet. Superior Oil Co. obtained the prize completion in its Wardman 4, which came in for an initial daily yield of 8075 barrels from a depth of 7900 feet. Union Oil Co. completed its Alexander 19 at 8000 feet for 7560 barrels and its Bell 46 for 6600 barrels from a depth of 7985 feet.

With the bottom of the hole at 9350 feet, Oscar Howard's Hathaway 7 is still awaiting a production test. The Hathaway is thought to have penetrated a new oil sand underlying the Clarke zone, although of smaller proportions than the latter.

Exploitation of the oil sands known to exist below the 8400 foot level are expected to be held in abeyance until after the flood of oil from completions in the Clarke sand has subsided. Experts believe that February or early in March will mark the peak of the Clarke production, after which the deeper sands may be drilled out.

Some difficulty is expected in obtaining commercial production from the 8400 to 9000 foot horizon because of the hardness of the oil bearing sands. Attempts may be made to break the formations up by shooting the sand, but this method of "starting" oil is not much in favor on the Pacific Coast.

General Petroleum Corp. is drilling ahead in its Santa Fe No. 213 in the Hathaway sand with the bottom of the hole at below 8620 feet.

Completion by Standard Oil Co., of its No. 8-1P, an offset to Milham Exploration Co.'s discovery well on the north dome of the Kettleman Hills, marks an important point in the Kettleman Hills situation. The 8-1P was one of the four wells to be completed under the agreement drawn up last July whereby production was to be limited in the Kettleman Hills permits. Standard's other offset well, No. 81-11P, was competed several months ago but was later killed to deepen to a lower horizon. The 81 is now drilling cement out below 6673 feet and will be recompleted within the coming month.

The 8-1P came in for an initial yield of 4000 barrels of oil and 101 million cubic feet of gas per day from a depth of 7108 feet. The natural gas has a gasoline content of 1½ gallons per 1000 cubic feet and the oil is 61 gravity.

Continental Oil Co.'s 12-8, which was completed for 7000 barrels of oil and 150 million cubic feet of gas, has been beaned down, to keep the pressure up, so that it is now making only 6000 barrels oil with the same amount of gas. Continental's well is nearly twice the size of any other completion in the field, as the discovery well is now making about 3500 barrels of oil and 75 million cubic feet of gas.

Bolsa Chica Oil Corp.'s Ferguson 1 on the north dome of the Kettleman Hills is standing with 9-inch casing set at 7300 feet. The well is midway between Milham's discovery well and General Petroleum Corp.'s Ochsner No. 2 in Section 26. The Ochsner was completed in the upper Temblor but was later killed and is now nearing recompletion in the lower sands.

Bolsa Chica's wells is of particular interest as it is down on the western flank of the field, which is known to dip very sharply. Petroleum Securities well Robinson No. 1, also on the west flank, was drilled below 8200 feet without finding the main oil sand and it is expected that the Ferguson will have to be drilled to nearly 8000 feet before commercial production can be obtained.

With the announcement by Petroleum Securities and Honolulu Consolidated oil companies that they would open up their wells in the Round Mountain and Poso Creek districts after Jan. 1, Standard Oil Co. of California opened up 30 wells that had been shut in under an agreement entered into several months ago between operators on the Kern Front.

General Petroleum Corp. and Union Oil Co. both opened pipe lines into this district providing an outlet for the heavy oil. The oil found in the lower San Joaquin Valley is for the most part, good for little except fuel stocks, although some of the Kern Front wells produce good crude for lubricating oils.

Pew Given Luncheon by Dallas Oil Men

HOUSTON, Jan. 4.—A farewell luncheon was given to J. Edgar Pew, vice president and general manager of the producing department of the Sun Oil Co., at Dallas, Jan. 3, on the occasion of his removal to Philadelphia headquarters of the Sun early in January. The removal has been announced as only partial, since Mr. Pew will continue to divide his time between Dallas and Philadelphia.

The Dallas luncheon was presided over by Edward T. Moore, president of the Texas division of the Mid-Continent Oil & Gas Association, and executive head of the Simms Oil Co., Dallas. William H. Francis, vice president and general counsel of the Magnolia Petroleum Co., Dallas, was the principal speaker.

Other speakers included E. R. Brown, president of the Magnolia; Nathan Adams, president of the First National Bank of Dallas; J. L. Lancaster, president of the Texas & Pacific railroad; and Barry Miller, lieutenant governor of Texas.

Mr. Pew is a director of the American Petroleum Institute and one of its past presidents. He is a director of the First National Bank of Dallas, into which the American Exchange National Bank and City National Bank were merged recently.

Fresh Discoveries Made In Gulf Coast Areas

HOUSTON, Jan. 6.—A deep flank well of the Humphreys Corp., in its A-8 Kirby test, at Barbers Hill, has proved production on all sides of this Gulf Coastal salt dome structure. The well came in Jan. 4, flowing wild and making an estimated 7000 barrels daily of high gravity crude at 6414 feet. The well is on the northwest flank of the dome.

The new Humphreys well is approximately 1000 feet deeper than production of the Yount-Lee Oil Co., on Chambers County Agricultural Association Land, two miles away, on the south flank of the dome, and is 1500 feet, deeper than production of the Mills Bennett and Humphreys companies on the east flank.

Completion of the Humble Oil & Refining Co.'s No. 6 R. S. Sterling, east flank of the Moss Bluff dome, for the first commercial oil there, proved the seventh producing field in Liberty county. The Sterling well, at 5666 feet, made initial production of 800 barrels daily. Moss Bluff had been proved structurally by geophysical methods, and the outlines of the salt plug structure established by earlier test drilling, but it remained for the sixth test on the Sterling land to bring actual oil production.

* * *

William A. Green Dead

HOUSTON, Jan. 5.—William A. Green, 75, formerly treasurer of the Texas Co., and a widely known retired oil man, died suddenly in Houston, Jan. 4. His first position with The Texas Co., in 1911, was that of comptroller. He was elected treasurer in 1913 and retained that position until retirement in 1924. Before connection with The Texas Co., he was identified with other interests of the late John W. Gates.

Completions in Oklahoma and Kansas, Week Ended January 4, 1930

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Cotton Belt	10	NWc NE NW SW 10-4-2 W	1740-1817	15
Ven-Mex	1	SE NW NE 30-1-3 W	T.D. 3255	Dry

Cotton County

Barnsdall	16	NEc SE NE SW 33-1-10 W	2139-2154	10
Baldwin-Sultan	6	NEc SE SE SE 35-1-10 W	2183-2202	45

Creek County

Phillips et al	3	SWc NE NE 20-19-9 E	2232-2265	90
Bartlett	1	SW SE SW 23-18-8 E	2644-2820	1½M
Harwell et al	1	NEc SW SW SE 31-18-11 E	1665-1668	3M
Pawnee	5	C SE SE 14-17-8 E	2285-2320	5
Ice	5	NEc SE NE SE 19-17-10 E	620-636	1½
Emerson-Berry-McCoy	1	NWc NE 20-17-10 E	2058-2106	45
Mathews	1	NEc 21-16-11 E	2236-2247	2M
Wilcox	1	SW NW SE 6-14-10 E	2821-2826	30
Jones et al	1	NE NW SW 26-13-12 E	T.D. 600	Dry

Johnston County

Smith-Kinsley	1	SEc NW 29-1-7 E	T.D. 2254	Dry

Kiowa County

Head	1	CWL NW 22-6-16 W	T.D. 600	Dry

Okfuskee County

Schoenfeldt et al	5	SEc NE SW 4-11-12 E	T.D. 1577	Dry
Havel et al	1	SWc SE 23-11-11 E	1592-1644	25
Eagle Pitcher Lead & Zinc	5	SE SW NW 17-11-12 E	T.D. 2394	¾M

Okmulgee County

Levine et al	2	NW SE NW 24-14-12 E	1221-1265	1½M
Sheridan	4	CNL SE SE 33-16-11 E	T.D. 2184	Dry
Rebold	1	NWc SW 5-15-13 E	T.D. 2646	Dry

Payne County

Pure	1	NEc NW 9-18-5 E	3614-3641	450
Mulberry	6	SW NW NW 5-17-4 E	4115-4159	625

Pottawatomie County

Healdton et al	1	SE NW NW 8-9-5 E	4371-4387	1615
Twin State	1	NW SW SW 3-8-4 E	T.D. 4482	Dry

Seminole County

Texas	3	SE SW NW 4-7-7 E	4220-4230	900
Magnolia	1	NEc 8-7-7 E	4173-4174	16
Magnolia	2	NW NE NE 8-7-7 E	3135-3186	2590
Pine	2	NEc SW 13-7-6 E	3210-3242	475
Magnolia	1	NEc 24-7-6 E	3080-4115	12M
Texas	2	NW NE SW 24-7-6 E	3118-3136	22M

Tulsa County

Brown et al	4	CWL SE NW 6-17-13 E	1307-1445	12

Wagoner County

Gillett	7	CEL NW SE 25-17-16 E	1297-1312	6

KANSAS

Butler County

Empire	19	NE SE NW 18-26-5 E	2623-2645	35

Coffey County

Cross et al	1	SWc NE 33-22-14 E	T.D. 1730	Dry

Greenwood County

Phillips	1	SW SE SW 22-23-11 E	1917-1997	140
Sheedy et al	5	NW SE NW 5-24-13 E	1612-1620	50

Harvey County

Jolly-Ogg et al	1	SEc NE 22-23-1 W	T.D. 3220	Dry
Jolly-Ogg et al	1	NEc 11-24-1 W	T.D. 3450	Dry

McPherson County

Milmac et al	1	NWc 11-20-3 W	T.D. 1500	Dry
Derby	1	SEc SW 11-19-2 W	2925-2935	22¼M

Rush County

Danciger et al	1	C NE 17-19-17 W	T.D. 4148	Dry

Sedgwick County

Wentz	5	NW NE NW 1-26-1 W	3343-3345	45
Gypsy	4	NWc 14-26-2 E	3154-3157	440

Stevens County

Argus	1	C NW NW 29-33-36 W	2617-2780	7M

Completions in North Louisiana and Arkansas, Week Ended January 2, 1930

Louisiana—Bossier Parish—Elm Grove

Company	Well	Location	Depth	Yield
Louisiana Gas & Fuel Co.	Thigpen-Herold No. 4	12-17-12	1738	1½M gas

Caddo Parish—Pine Island

H. J. Bussa	Herndon No. 7	15-21-15	1695	10 bbls.

Morehouse Parish—Monroe

Magnolia Pet. Co.	U. S. No. 6	33-21-5E	2369	31M ft. gas
Magnolia Pet. Co.	U. S. No. 7	33-21-5E	2382	45M ft. gas

Sabine Parish—Zwolle

R. L. Gay, Trustee	Long-Bell Lbr. Co. No. 1	26-8-14	3653	dry, aband.

Webster Parish—Cotton Valley

Company	Well	Location	Depth	Yield
Standard Oil Co. of Louisiana	T. Creighton Jr. No. 1	33-21-10	4693	33M ft. gas

East Texas—Panola County

Magnolia Pet. Co.	G. C. Tiller No. 5	Co-Ord D-16	3186	15 M gas

Arkansas—Ouachita County—Smackover

Simms Oil Co.	E. Johnson No. 5	34-15-15	1987	40 bbls.
Texas Company	Berry No. 5	4-16-15	2346	5 bbls.

Union County—Smackover

E. L. Chapman	Thompson No. 1	4-17-15	2525	salt water, abd.

Completions in California, Week Ended December 28, 1929

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
A. T. Jergins Synd.	Municipal 28	....	7997	440
McFarland Synd.	No. 1	....	4260	800
McMillan Pet. Co.	No. 9	....	6087	400

Maricopa Flats

North American Consolidated Oil Co.	Kerckhoff 7	....	3208	550

Mt. Poso Creek

Signal Oil and Gas Co.	15C	....	1635	135

Santa Fe Springs

Company	Well No.	Location	Depth	Init. Prod.
General Petroleum Corp.	S. F. 235	....	8045	2600
Superior Oil Co.	Wardman 4	....	7900	4840
The Texas Co.	Weaver 6	....	8097	5500
The Texas Co.	Standlee 5	....	7880	2000
Wilshire Oil Co.	Peterson 2A	....	7951	..
Ambassador Oil Co.	Baker 15	....	7957	500
The Texas Co.	Matern 2-10	....	7738	850

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended January 4, 1930

OKLAHOMA

Cotton County

Company	Well No. & Farm	Location
Franklin et al	1-School	NWc SW SW SW 36-1-10 W
Shasta	1-Littlefield	SEc NW 31-1-9 W
Shasta	2-Whitehead	SWc NW NW NE 1-2-10 W

Creek County

Pioneer	1-Scott	SEc NW 15-19-9 E
Pioneer	1-Hope	NEc SW SW 6-17-9 E
Glenn-Cole et al	1-Withers	SE NE SE 1-14-10 E

Greer County

Good-Dowell	1-Cleffell	NWc 1-7-22 W

Harmon County

Company	Well No. & Farm	Location
Harmon-Tex	1-Headley	NEc 17-4-24 W

Jefferson County

Bridwell	1-Spring	NEc NW SW NW 25-6-6 W

Lincoln County

Magnolia	4-Staubus	SW NW SE 8-14-4 E

(*Continued on Page 47*)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended January 4, 1930

(*Continued from Page 46*)

Muskogee County

Company	Well No. & Farm	Location
Bement	1-Davis	CSL SE NE 15-13-16 E
Hale-Reynolds	1-Welch	C SW NW SE 1-13-18 E
Mills et al	4-Jordan	SEc 14-13-18 E
Kershaw	1-Fee	SWc SE SE 15-13-18 E

Okfuskee County

Burke-Greis	1-Grayson	NWc SE 32-12-10 E

Oklahoma County

I. T. I. O. et al	1-Farley	SW NW SW 24-11-3 W
I. T. I. O. et al	1-Warden	NWc SW 24-11-3 W
I. T. I. O. et al	2-Farley	SE NE SE 23-11-3 W

Okmulgee County

Rebold	2-Scott	NEc NW SE 6-15-13 E

Pontotoc County

Dixie	2-Haynes	NE NW SW 32-5-5 E

Pottawatomie County

Eason	1-Townlot	NEc SW SE NW 8-9-5 E
Superior et al	1-Alford	NE SE NE 7-9-5 E
Magnolia	7-Billington	SW NE NW 22-7-4 E
Magnolia	6-Billington	SE NE NW 22-7-4 E

Seminole County

Carter	13-Killing	C N½ NW 23-9-6 E
I. T. I. O.	1-Johnson	NW SE NE 24-7-6 E
Magnolia	3-Cudjo	SW NE NE 24-7-6 E
Gypsy	2-Smith	NWc 18-6-8 E

Stephens County

Pace et al	5-Bristowe	NWc SW NW SW 18-2-7 W

Tulsa County

Bryan	1-Rothammer	SEc SW SW 1-16-15 E

Wagoner County

Hale-Ford	5-Brown	SWc SE NW 36-16-17 E

KANSAS

Butler County

Alladin	1-Our	NEc SE 20-26-7 E	OWD

Chase County

Steinbuchel et al	1-Cook	Lot-27 NEc 31-19-8 E	

Cowley County

Wakefield et al	2-Osborne	SE SW NE 18-30-5 E	
Arkansas	1-Biddle	C SW NE 7-32-5 E	

Greenwood County

Simmons-Rhodes	5-Patterson	NE SW SW 22-23-11 E	

McPherson County

Milmack et al	1-Decker	NWc 11-20-3 W	
Derby	2-Stuckey	NW NE SE 9-21-3 W	

Sedgwick County

Shell	1-Borg	NW NE SW 14-26-2 E	OWD
Shell et al	1-Tripp	NEc SW 22-26-2 E	

Sumner County

Dickey et al	3-Kratz	SWc NW 26-34-2 E	

TEXAS

NORTH CENTRAL & EAST CENTRAL

Brown County

			Survey
Darby	6-Belvin	Sec-42	Chaddick
Smith	28-George	Sec-42	Chaddick
Owens Inc	8-Cannon	Blk-3	Arenback
Ven-Mex	2-Butler	Blk-798	McGloin

Callahan County

Holden & DeLangue	1-Johnson	Blk-81	Comal Co. Sch. Ld.
Lillins et al	1-Clinton	.....	Cherry

Coleman County

Barkley	1-Norton	Blk-270	Eubank[8]

Comanche County

Sun	1-Bryson	.....	Meade No. 30

Eastland County

Lewis et al	1-Turner	Sec-16 Blk-2	H&TC
Republic	5-Sneed	Blk-30	McLennon Co. Sch. Ld.
Hyer	1-Patterson	Sec-78 Blk-4	H&TC

Erath County

Associated	3-Carey	Sec-25	Espinos[a]

Navarro County

Mason et al	1-Marchbanks	.....	Eaton

Robertson County

Alexanderson-Anderson & Heff	1-Anderson	.....	Webb

Smith County

Deep Rock	1-Bowdoin	.....	Loot

NORTH TEXAS

Archer County

Company	Well No. & Farm	Location	
Hamilton	1-Pace	.....	Williams
Continental-Cullum	4-Falls Co. Sch. Ld.	.....	FCSL
Burns et al	1-Kecke	Blk-25	Meade
Texas	1-Portwood	Sec-2412	TE&L
Pandem	4-Young	Sec-2426	TE&L
Pandem	3-Young	Sec-2426	TE&L
Richards et al	1-Young	Sec-2426	TE&L
Lawson-Duke	4-Richardson	Sec-2425	TE&L
Producers Drlg	1-Carson	.....	Neil
Ridgeway	1-Jackson Est.	.....	Ellerd

Cooke County

Lewis Prod. et al	1-Willis	.....	Broadnax
Grant et al	1-Dennis	.....	Pope
Owens	1-Stark	.....	BBB&C
Humble	1-Sears	.....	Barnett

Montague County

Seitz-Conegye-Seitz et al.	1-Lewis	Blk-1	Short
Lesh-McCall	2-Cunningham	.....	Norton
Lesh-McCall	1-Cunningham	.....	Norton

Wichita County

Hamilton-Sheldon	1-Robinson	Blk-321	Waggoner
Hamilton	1-Valhart	Blk-309	Waggoner
Hammon	1-Mitchell	Blk-24	Castleman
Humble	19-Taylor	Blk-81	KWVFL
Comac-Prairie	1-Neal	.....	DL&C
Hiland	3-Chilson	League-4 Blk-9	DCSL

Wilbarger County

Atlantic-Seigler	8-Waggoner	Sec-35 Blk-2	H&TC
Waggoner	P11-Waggoner	Sec-50	H&TC
Empire	C19-Waggoner	Sec-25 Blk-4	H&TC
Empire	B30-Waggoner	Sec-32 Blk-2	H&TC
Grayback Dev	2-Waggoner	Sec-50 Blk-2	H&TC
Lido	C5-Waggoner	Sec-35 Blk-2	H&TC

Young County

Atlantic	1-Kunkel	Sec-4	BBB&C
Riggs	2-Keeter	Sec-150	TE&L
Riggs	4-Keeter	Sec-150	TE&L
Cotton et al	1-Jones	Sec-25	TE&L
Wise-Jackson	7-Cullers	.....	Hyatt
Wise-Jackson-Devonian	2-Miller	Blk-5	Rohus
Bratcher	4-Cullers	.....	Stennett
Woolen-Reed	4-Casey	Sec-1905	TE&L
Hawkins	1-Stewart	.....	Dawson
Martin-Cochran	2-Smith	Sec-634	TE&L

PANHANDLE

Gray County

Smith-McDonald	1-Chapman	Sec-49 Blk-A-9	H&GN
McIlroy	1-Archer	Sec-139 Blk-3	I&GN
Magnolia	4-Harrah	Sec-150 Blk-3	I&GN
Gulf Prod	4-Worley	Sec-36 Blk-3	I&GN
Gulf Prod	1-Combs et al.	Sec-38 Blk-3	I&GN

WEST TEXAS

Crane County

Gulf Prod	71-McElroy	Sec-201 Blk-F	CCSD
Simms-Atlantic	11-Univ.	Sec-39 Blk-30	Univ.

Glasscock County

Schermerhorn	2-Kloh	Sec-13 Blk-33	T&P

Howard County

Pure	3-Hooks	Sec-140 Blk-29	W&NW

Pecos County

Simms	1-Univ.	Sec-21 Blk-19	Univ.
Cardinal	1-Tidal-Tippett	Sec-40 Blk-194	TC
Cardinal	1-Sun-Tippett	Sec-1	Robertson
Humble	13-Smith	Sec-36 Blk-194	TC

Upton County

Gulf Prod	72-McElroy	Sec-200 Blk-F	CCSD
Snowden-McSweeney	3-Hughes	Sec-4	Trees
Pure	4-Hughes	Sec-4	Trees

Ward County

Mid-Continent	1-Coates	Sec-23 Blk-B-29	PSL

Completions in Texas, Week Ended January 4, 1930

NORTH CENTRAL & EAST CENTRAL

Brown County

Company	Well Farm	Survey Sec. & Blk.	Depth	Init. Prod.
Darby	5-Berlin	Chaddick Sec-42	1293-1324	200
Humble	18-Kilgore	Delgado Sec-3 Blk-789	1165-1195	35
Tex.-Cal	2-Martin	HT&B Sec-11	967-972	100
Eppenaner	1-Shields	Montez et al.	T.D. 1200	Dry
Humble	19-Kilgore	Delgado Sec-3 Blk-789	T.D. 1158	Dry
Lloyd	31-Collier	Smith	T.D. 450	Dry
Mitcham-Preston	1-Turner	.....	T.D. 1091	Dry
Ven-Mex	1-Butler	McGloin Blk-798	T.D. 80	Dry
Williamson et al.	1-Eddington	Mitchell Blk-141	T.D. 1151	Dry

Callahan County

Towrence-Gray	1-Cent. Add'n.	Cross Plains Anderson Blk-30	T.D. 1473	Dry
Continental	1-Alexander	ET Sec-23	T.D. 1573	Dry
Hudson-Steward-Robinson	1-Swafford	McKinney Blk-769	T.D. 312	Dry
Oyster-Rife	1-Williams	SP Sec-1 Blk-1	T.D. 843	Dry
Union Oil Co. of Nevada	1-Alexander	ET Sec-23	T.D. 1382	Dry
Westheimer-Daube	2-Hart	D&DA Sec-7	T.D. 535	Dry
Holden et al.	2-Cavanaugh	Comal Co. Sch. Ld. Blk-98	1660-1664	70
Mook Texas	1-Johnson	Comal Co. Sch. Ld. Blk-83	1618-1634	50
Roberts et al.	1-Isenhaver	TE&L Sec-2273	430-432	1/10M
Schaefner	6-Cowan	Comal Co. Sch. Ld. Sec-74	350-373	1½

Coleman County

Lloyd et al.	2-Bartholemew	Farris Blk-279	1439-1444	310
Lloyd et al.	3-Bartholemew	Farris Blk-279	1424-1428	54

Comanche County

Humble	1-Walker	Shelton	T.D. 2855	Dry

Eastland County

Eastland	1-Hitson	H&TC Sec-73 Blk-4	T.D. 3855	Dry
Tex-Wa	1-Hightower	H&TC Sec-29 Blk-2	T.D. 1310	Dry
Chestnut-Smith	1-Harrell	Conway	4158-4170	18
Arab	1-Dokan et al.	H&TC Sec-22 Blk-4	3755-3865 P.B. 3800	1.2M
Cochelle	1-Hightower	H&TC Sec-29 Blk-2	1315-1317	10

Jack County

Parks	1-Lanier et al.	BBB&C Blk-5	T.D. 605	Dry

Limestone County

Why Not Oil Co. & 44 Oil Co.	3-Rhea	Varella	T.D. 2980	Dry

Van Zandt County

Shell	2-Tunnell	Gross	2426-2666	3M
Shell	1-Tunnell	Gross	2504-2680	85 (1 Hr.)
Pure	1-Thompson	Gross	2644-2670	5000 (Est.)

Wood County

Gulf Prod.	1-Stewart et al.	Tollett	T.D. 1262	Dry

NORTH TEXAS

Archer County

Continental	2-Falls Co. Sch. Ld.	.....	1113-1129	60
Lawson-Duke	2-Richardson	TE&L Sec-2425	1410-1419	100
Bridwell	1-Taylor	ATNCL Sec-14 Blk-3	T.D. 1752	Dry
Elliott-Pace	1-Wolfe	Howard	T.D. 1753	Dry
Humble	1-McCoy	DL&C	T.D. 1614	Dry
Hunter	1-Kunkel	Sanderford	T.D. 1211	Dry
Shappell	14-Lyles	Hooper et al.	T.D. 1994	Dry
Stumpf	2-Ward	Tomlinson	T.D. 1137	Dry
United Prod. & Consolidated	1-Mongold	Mongold Blk-17	T.D. 1851	Dry
United Prod. et al.	1-Wilson	SP Sec-1	T.D. 1785	Dry

Baylor County

Barnsdall	A1-Portwood	TE&L Sec-1280	T.D. 1481	Dry

Cooke County

Company	Well Farm	Survey Sec. & Blk.	Depth	Init. Prod.
Benson Bros. et al.	1-Filderhoff	Anderson	725-760	5½
Richardson Bros.	1-Whaley	Thompson	T.D. 2227	Dry
Kewanee	1-Dennis	Hermandez	T.D. 1000	Dry
Fain-McGaha	1-Wells	Jewell	T.D. 1644	Dry
Bridwell et al.	1-Barron	MEP&P	T.D. 2020	Dry

Foard County

Shell-Fain & McGaha	1-French	GC&SF Sec-3	2017-2037	90

Montague County

Texas	A4-Cunningham	Norton	910-924	17

Wichita County

Merrick Drlg. et al.	1-Wigley	CT	T.D. 1854	Dry
Sheldon et al.	1-Gibson	Waggoner Blk-302	T.D. 1962	Dry
Wilson Drlg. et al.	1-Griffin	Spillers Blk-6	T.D. 1851	Dry
Humble	18-Taylor	KWVFL Blk-81	1759-1769	150

Wilbarger County

Davis	4-Waggoner	H&TC Sec-35 Blk-2	2645-2672	1063
Empire	A19-Waggoner	H&TC Sec-32 Blk-4	1834-1846	64
Empire	B20-Waggoner	H&TC Sec-32 Blk-4	2312-2314	75
Fain-McGaha	AA5-Waggoner	H&TC Sec-18 Blk-4	2403-2405	55
Shaw	E8-Waggoner	H&TC Sec-18 Blk-4	2425-2435	50

Young County

Goldsmith-King	7-Kunkel	Stell	1130-1147	175
Parks et al.	3-Cullers	Stinnett	569-580	40
Sun	16-Kunkel	BBB&C Sec-4	1144-1153	150
Wise-Jackson	6-Cullers	Hyatt	580-591	18
Alexander	1-Drum	Tynes	T.D. 540	Dry
Allday	1-Petty et al.	TE&L Sec-3404	T.D. 593	Dry
Beavers-Moran	1-Mullinax	TE&L Sec-183	T.D. 1100	Dry
Goldsmith	1-Rogers	TE&L Sec-166	T.D. 904	Dry
Reed-Wooten	2-Fisher	Lemmons	T.D. 610	Dry
Western	1-Anderson	TE&L Sec-1591	T.D. 1404	Dry

PANHANDLE

Gray County

Phillips	6-Jackson	H&GN Sec-88 Blk-B-2	3026-3030	150
Texas	14-Saunders	Eustice Sec-1	2664-2766	27
Magnolia	7-Bowers	H&GN Sec-63 Blk-B-2	2990-2999	700

WEST TEXAS

Borden County

Teas-Wheeler	1-Long	T&P Sec-27 Blk-30	T.D. 4026	Dry

Crane County

Tidal	D2-Univ.	Univ. Sec-34 Blk-30	2955-3032	200
Magnolia	17-Univ.	Univ. Sec-39 Blk-30	2863-3012	315
Republic Prod.	1-Hughes	Prather Sec-2	2395-2409 (12 Hrs.)	30

Glasscock County

Simms	1-Coffee	T&P Sec-22 Blk-33	2146-2156 (1 Hr.)	38
Shell	1-Coffee	T&P Sec-15 Blk-33	2226-2239 (18 Hrs.)	936
Smith	2-Coffee	T&P Sec-15 Blk-33	2103-2130 (1 Hr.)	60

Howard County

Continental	8-Settles	W&NW Sec-135 Blk-29	2931-2939 (1 Hr.)	35
Humble	6-Clay	W&NW Sec-138 Blk-29	1845-1870	90
Godley	7-Hooks	W&NW Sec-140 Blk-29	1838-1863	65

Pecos County

Landreth Prod-World	B6-Univ.	Univ. Sec-13 Blk-18	1610-1655	557
Landreth Prod.	E3-Univ.	Univ. Sec-13 Blk-18	1626-1675	192
Landreth Prod.	F2-Univ.	Univ. Sec-31 Blk-16	955-976	47
Humble	12-Smith	TC Sec-36 Blk-194	1365-1453 (12 Hrs.)	800
California	5-Smith	TC Sec-37 Blk-194	1440-1489	768
Landreth Prod.	1-Cunningham	H&GN Sec-32 Blk-11	T.D. 1720	Dry
Landreth Prod.	2-McDonald	H&GN Sec-46 Blk-12	T.D. 1663	Dry

Upton County

Gulf Prod.	69-McElroy	CCSD Sec-185 Blk-F	2928-3010	130

One Flaw in Flying Found By Pilot Oakley

TULSA, Jan. 4.—Arthur Oakley, pilot for the drilling contracting firm of Noble & Olson, maintains that standardization of the weather would be a big help in flying. He doesn't ask that the quality be always good, but he would like it to be the same everywhere at the same time.

His reasons for this request are simple enough. Mr. Oakley starts out from his Ardmore headquarters on a warm sunshiny day common during an Oklahoma winter. His first stop, is say, Oklahoma City. From there he makes it comfortably to Tulsa, looking down on the sunlit earth from his cozy perch in Noble & Olson's Buhl Airsedan.

Spiraling down on the Tulsa airport, he reminds himself that it's a good thing he didn't bother to bring a heavy coat, as it would have been in the way. He speculates idly on how much of a wait he'll have before he hops off for Ardmore, which he expects to make well before dark.

Then comes the wrench in the works. He hardly has his plane gassed up, and his oil checked before he discovers that one of the partners craves to go to Canada, and right now.

He hasn't time to protest that he isn't dressed for the occasion. Gun this thing, and let's get going. We want to be as far on our way by dark as possible. All right then, lets go.

A way station stop that night. And then early the next morning the contractor and the pilot hop off direct for Calgary, Alberta, Canada. But not the warm weather. That has to be left behind, along with the warm clothes.

Sailing high, wide and handsome along the skyway to Canada in a warm, sweet-handling cabin job is one thing. And landing in a place where it's far below zero is something else again.

Mr. Oakley didn't find out much about the natural beauties of Calgary that trip. He made fast time getting from the landing field to the hotel, and there he stayed the rest of the trip. It was warm inside the hotel, and for scenery there was a swell fire to look at, in which, if he looked closely enough, he could see an image of a fine big sheep-skin coat hanging in the closet at home. Yes, sir, it sure would be swell if the weather would just be the same everywhere at the same time, thinks Pilot Oakley.

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If you will tell us the size and extent of your pipe job, we will be glad to quote you on Oceco 2-Bolt Pipe Couplings and send helpful information.

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Deep Sand Development in Salt Creek

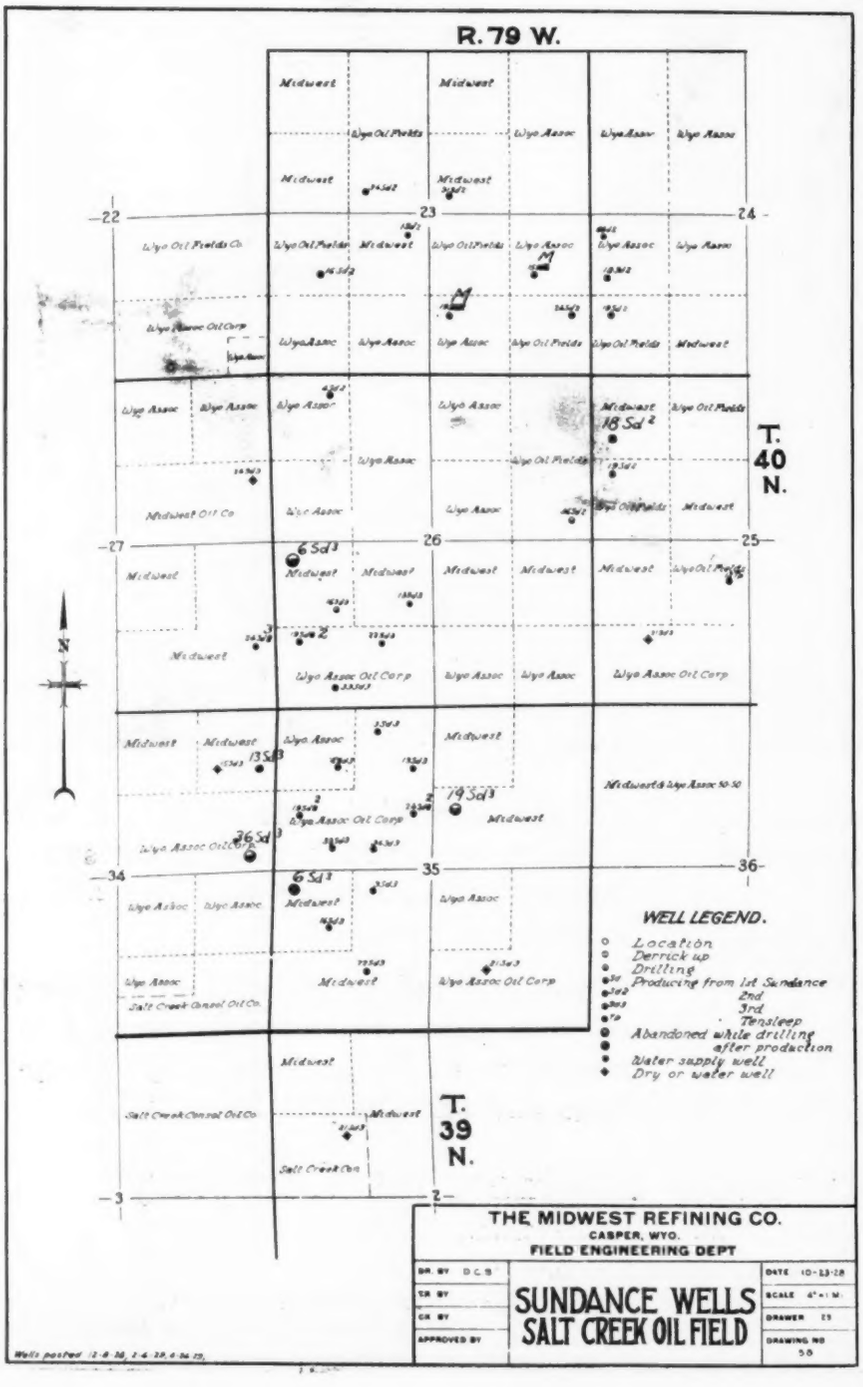
By C. D. Buffett*

(Presented before Rocky Mountain division, A. P. I., Division of Development and Production Engineering)

THE title of this paper might be misleading to oil men from the Mid-Continent or California districts and to some of the operators in the Rocky Mountain region. The deep sands of the Salt Creek field might more properly be called deeper sands. The depths at which these sands are encountered would be comparatively shallow in other parts of the country. Until recently, however, the development in Salt Creek has been carried on at more shallow depths.

In this paper the development of the Sundance sands will be discussed. The productive sands in the Sundance are the second and third.

The general structure of the Salt Creek dome is well known. It will be sufficient to note that the structure of the deeper sands is relatively the same as the structure shown on the maps which have been frequently published for the Frontier sands. The axis of the structure is vertical and the apex is found on all sands at the same point on the surface.



The Sundance formation in which the two productive sands occur is of Jurassic age. The term Sundance is almost universal for the state of Wyoming, except in the Southwestern part of the state where the same formation is called Twin Creek. The corresponding formation in Montana is the Ellis.

The average depth to the top of the Second Sundance is 2800 feet. The Third Sundance sand is encountered at an average depth of 2900 feet. The average interval between the top of the two sands is 180 feet. The Second Sundance wells used in the above average depth were further down structure than the wells in the Third. The average thickness of the Second Sundance sand is 94 feet. The entire thickness is not a uniform sand and more properly should be termed a sandy zone. The thickness of the Third Sundance sand averages 55 feet.

The limits of production in each sand have not been definitely defined around the entire area. However, the area of Second sand production is approximately 1200 acres and the Third Sundance area will probably cover 500 acres. The present development in both Sundance sands is shown on the map.

The Midwest Refining Co. operates the entire area covered by both sands under a contract with the lease-holding companies. These companies are the Midwest Oil Co., Wyoming Associated Oil Co. and the Wyoming Oil Fields Co. The land is owned by the federal government and is under the supervision of the United States Geological Survey.

Before development of the Third Sundance was commenced an agreement was made with the operating companies and the Geological Survey. This agreement allowed the operating company to drill and produce the Sundance sands as a unit.

The original well spacing program for the Third Sundance called for one well to each 20 acres. This program

*Petroleum Engineer, Midwest Refining Company, Salt Creek field.

Form No. 26f

DAILY PRODUCTION SUNDANCE ~~DAKOTA~~ WELLS

MONTH September 1929

COMPANY Wyo. Assoc. WELL NO. 3SD3 LOCATION NW 35

Date	Fluid ~~Flowed~~	Oil Net Bbls.	Gas M. cu. ft.	Water Bbls.	F/B	Pressures Casing	Pressures Tubing	CHANGES OF OPERATING METHODS—REMARKS
1	521	521	170	0	326	440		Flowing thru 1/4" bean
2	483	483	165	0	342	430		
3	526	526	136	0	258	425		
4	514	514	145	0	282	425		
5	534	534	136	0	255	425		
6	495	495	166	0	335	425		
7	509	509	146	0	287	425		
8	519	519	166	0	320	430		
9	575	564	146	11	259	430		
10	503	496	157	7	316	430		
11	523	523	170	0	325	430		
12	499	497	138	2	278	425		
13	521	521	170	0	326	425		
14	475	475	146	0	307	425		
15	498	498	138	0	277	420		
16	521	521	147	0	282	420		
17	523	509	170	14	334	420		
18	416	381	170	35	446	415		
19	499	465	150	34	322	415		
20	496	477	157	19	329	415		
21	487	418	163	69	390	410		
22	475	439	165	36	376	410		
23	488	486	138	2	284	410		
24	488	478	138	0	289	410		
25	479	476	141	3	296	405		
26	491	487	136	4	279	400		
27	494	492	136	2	276	395		
28	480	454	136	26	300	395		
29	437	437	136	0	312	390		
30	483	483	136	0	282	390		Bleeder sample shows no water
31								
Total	14952	14688	4514	264				
Da. Av.	498	389	150	9	307			

Form for daily production record kept on Third Sundance wells. It permits a check at any time as to what the well is doing

was developed before the limits were as well defined as they are at present. The revised drilling program will be completed with approximately one well to each 30 acres.

The drilling program for the Second Sundance sand has not been definitely formulated, due to the fact that the sand is not uniformly productive over the present known area. The only wells that have been drilled to the Second Sundance are those which were originally drilled to the Lakota sand and had been exhausted in that horizon.

Cable tools have been used on all wells to the Sundance sands except one well which was drilled with rotary tools. The rotary well was drilled with the latest equipment and which was not found suitable for the Sundance wells.

The Third Sundance wells use the following casing program:

15½"	—	cemented at 100'	—	Conductor pipe
12½	—	set at 1000'	—	Top of 1st Wall Creek
10"	—	cemented at 1700'	—	Below 2nd Wall Creek
8¼"	—	cemented at 2600'	—	Below Morrison form
6¼"	—	cemented at 2900'	—	Top of Third Sundance

The above schedule is varied during the drilling if a frozen string of casing or a bad cement job make it necessary. The depths given also vary with the individual well.

In line with the practice developed on the upper sand wells, several precautions are taken to prevent crooked holes. An electric light on an extension cord is run into the hole after drilling each 20 feet. This is continued to a depth of about 400 feet or until shale oil or gas are encountered. Any variation from the vertical is immediately corrected by filling with rock and iron to a point above where the hole has gone crooked. In place of the ordinary straight stem the Jaques Forged Steel Drilling Connections have been used in helping to drill straight holes.

The large volume of oil and gas with the attendant high pressure has necessitated considerable precaution in drilling in the Third Sundance wells. A high pressure drilling gate is used with the control wheel on the outside of the derrick. The customary Oil-Well control head is used at the derrick floor.

Eight representative wells drilled to the Third Sundance showed an average drilling time of 139 days. Four wells were used for an average cost which was $26,440 or $9.00 per foot. The deepening work on wells carried from the Lakota to Second Sundance has cost on an average of $10,500 per well. A deepening job to the Second Sundance takes from 100 to 150 days to complete.

The discovery well in the Third Sundance sand was completed May 31, 1926, with an initial production of 6366 barrels. This well showed a shut-in pressure of 740 pounds and indicated an initial reservoir pressure of approximately 1600 pounds. All wells drilled since the discovery well have made a smaller initial production. The most recently completed well made an initial production of 1988 barrels. The initial production is not a criterion of the worth of a well as all of the wells have not been drilled the same distance into the sand. The depth drilled in has been

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governed to a large extent by water encroachment conditions in that part of the area.

The Second Sundance sand was discovered in October 1925, and the first well had an initial production of 31 barrels. The erratic nature of this sand is demonstrated by the fact that initial productions on wells drilled thus far have ranged from 31 to 1773 barrels. Excluding the one large well the average has been 145 barrels.

The Third Sundance was discovered in 1926 and was opened up for steady production in August 1929. During the intervening period ten additional wells were drilled. The decision was made to try and drill the entire area before placing any wells on production. This plan was followed as nearly as it was economically possible. The predetermined plan called for the production of all wells under back pressure. The plan has been followed and all wells are now producing through beans.

The back pressure varies with the position of the well on the structure and the quantity of fluid it is making. One well is flowing through tubing which has had no appreciable effect on the production, or the gas-oil ratio. The practice of holding back pressure has greatly retarded the tendency of the wells to make water.

A number of the wells which showed a small percentage of water on the open flow tests have made clean oil while flowing under back pressure.

All Third Sundance wells are flowing through the same type of surface connections. The wells are connected to permit flowing them through either a 2-inch Shaffer bean or a machined bean made in the form of a nipple. The Second Sundance sand flowing wells are produced through beans with a small back pressure maintained at the casinghead. Five of the Second Sundance wells are flowing and ten are pumping.

A large part of the Sundance oil contains some water which necessitates treatment to remove it. Considerable experimental work along this line has been done and the use of Tret-o-lite and heat was found to be the most satisfactory.

One producing problem which is common to the Rocky Mountain fields is the freezing of lead lines. Up to the present time the normal warm temperature of the oil and water in the Third Sundance has served to overcome this hazard.

As of Nov. 1 there were 14 producing oil wells in the Third Sundance sand. At that time there were 15 producing in the Second Sundance. The daily average production the first of November was 3000 barrels of Third and 700 barrels of Second Sundance oil. The production per acre to Nov. 1 was 211 barrels for the Second Sundance and was 1225 barrels for the Third Sundance. No dry holes have been drilled from the surface to either of the Sundance sands. Six deepening jobs on the edge of the area have encountered water in both sands.

The gas volume from both Sundance sands is comparatively small. The Third Sundance is currently making 720,000 cubic feet and Second is producing 100,000 cubic feet daily.

The oil from both Sundance sands is a mixed base crude with an average gravity of 36 degrees Baume. The Sundance oil is very similar to the oils produced from the upper Frontier and Lakota sands. The gravity of upper sand oil will also average close to 36.

The gas produced with the Third Sundance oil has a G.P.M. of 2.2 as determined by a charcoal test. The gas from the Second Sundance is slightly richer with a G.P.M. of 2.6.

A daily record is kept of all Third Sundance wells. A sample of this record is shown on the attached sheet. This tabulation permits a check at any time as to what a well is doing. The flowing pressures are obtained from daily charts on recording pressure gauges.

An estimate might be made of future and ultimate production of the Sundance sands but there are too many uncertain factors to allow even a close guess. Furthermore, the upper sands have never approximated the advance figures.

New Equipment

Oil Well Supply Co., Clark Bldg., Pittsburgh, Pa., is manufacturing a new high pressure boiler for use in deep drilling and for extreme service. Among the new features and improvements in this boiler are an 84-inch open bottom type firebox with a solid forged steel mud ring equipped with Nicholson Thermic syphon, which gives improved service at a low operating cost.

The syphon adds 20 per cent more heating surface to the firebox, the company claims, and increases the water circulation. This produces steam easily and increases the capacity of the boiler with a reduction in fuel consumption.

* * *

Lewis-Shepard Co., Boston, has appointed the Lincoln Products Corp., Newark, N. J. as its distributor for Jack-lifts, arc-welded platforms and stackers in northern New Jersey.

* * *

Joseph Reid Gas Engine Co., Oil City, Pa., has off the press five new catalogs describing these products: catalog No. 46, on type B 45 HP and 16 x 21 inch four cycle gas engines; No. 47, on Fulton type look boxes; No. 48 A, on No. 55 heavy duty reverse rigs; No. 49 on pressure oiling system for type B inclosed two cycle gas engines; and No. 50, on type B four cycle, 30, 35 and 40 HP gas engines.

* * *

A. Y. McDonald Mfg. Co., Dubuque, Ia., has developed a new self-closing line valve, among the features of which are the slow closing action, secured by liquid in the dash pot which acts as a cushion, giving the valve its slow closing and eliminating the shocks and jars on the manifold and line which are the chief causes of leaks.

The belly in the valve has been entirely eliminated by placing the valve and seat at an angle of 30 degrees, instead of 90 degrees, meaning that the liquid does not have to drop down and rise again into the line. Restriction and friction are cut to the minimum and a straight water way is obtained, the company says.

* * *

The Pittsburgh Equitable Meter Co., Pittsburgh, Pa., is erecting a branch factory at Tulsa, which will manufacture and service Emco gas meters and regulators, gasoline, oil and water meters. The new factory will have a white stucco front. The grounds will be landscaped and the entire property and building will be flood-lighted at night. The property is on the direct route to the oil fields.

The company's Tulsa offices will be moved from the Kennedy Bldg. to the new plant upon its completion.

* * *

The Linde Air Products Co., 30 E. 42nd St., New York City, tells in its November issue of "Oxy-Acetylene Tips" how a large cylinder of a hydraulic press in an oil plant was bronze-welded quickly after one of the lugs had broken off and made the press useless. Local preheating was done with kerosene torches and with the flame of the welding blowpipe. An hour and a half was required for the preheating and the actual bronze welding took three hours. The press was back in service the next day, and the plant superintendent estimated that a new casting would have cost about $500 and could not have been installed for at least a month, which would have meant a heavy loss in production.

* * *

Neilan, Schumacher & Co., 641 Santa Fe avenue, Los Angeles, manufacturer of automatic control and regulating equipment, has appointed R. B. Werey, to represent it in New York territory with offices at 30 Church street.

"Star Boarders" Among Oil Wells Eat Up Lease Profits

By John Power
N. P. N. STAFF WRITER

TULSA

PROFITS from stripper wells is largely a matter of bookkeeping. This is a statement which may sound like an invitation to the income tax people to do a little investigating. But far from it. It is merely another way of saying that to make money from old, settled production, the operator must know which are the wells which are profitable, and which are unprofitable.

No juggling with the figures is indicated. No trick debits or credits are asked for. But when a careful analysis of per barrel costs per well shows that some wells, or some leases, consistently fall short of making more money than it costs to operate them, it is clearly indicated that one of two things must be done.

Either, these wells must be repaired at a cost consistent with their output, or they must be junked. Engineers who have devoted considerable time and thought to this problem say that there can be no middle ground for the operator who is in the business to make money, and is not just producing oil for the romance that there may be in it.

When a horse, a dog, or, in these enlightened days, even a human being, is old and worn out, there are often sentimental reasons why they should be cared for long after they have outlived their usefulness. There is no need for such humanitarian measures with an oil well. When a well has declined to a point where, given good operating conditions, it cannot produce enough oil to pay for its operation, it should be put out of its misery.

According to several consulting engineers who spend a considerable portion of their time in studying the problems of small companies, no small number of these companies do not know which of their properties are making them their money, if any. In spite of the fact that the company books are well kept, and the various expense items properly entered, too many of those with limited production do not bother to allocate to each well the expense items which properly should be charged to it.

As an example of this, one company, operating 24 leases which it has owned for a number of years, has consistently been making a little money. But not as much money as it felt it should be making from the volume of production it owned. Although convinced that the superintendent was doing everything in his power to keep costs as low as possible, it was felt that the need for a consultant was clearly indicated.

The first step that the consultant took was to make a careful examination of the cost records of the company. In this he found he was particularly fortunate, as they had been kept unusually well for companies of this type. In the journal entries the various items of expense had been separated under the proper headings, making it a comparatively easy matter to set up a sheet for each lease.

He found the properties could be divided into three classes. Those that were making money, those that were just about breaking even, and those that were going in the red, and had been for some time. At first he confined his attention to the last class, as these most clearly needed attention. Out of 24 properties the company was operating, six of them or 25 per cent, were operating at a definite loss per barrel, ranging from 11 cents to $1.75.

Four others were found to be making but 10 cents per barrel. It would have required a price increase of more than 100 per cent to have put some of the properties back on a paying basis.

With the particular properties in mind which were serving only as dead wood, the problem narrowed down to arriving at a conclusion as to what to do with them. Obviously, they had either to be fixed up, and the production increased to a point where they would pay, or the wells would have to be abandoned.

Proceeding along this line of attack, the engineer called first for an individual well gage from each of the properties that was losing money. While the results of this gage were being tabulated, he set about separating the operating cost chargeable to the various leases under observation to the individual wells. In this way he discovered that in several instances all of the production from some of the leases was coming from certain wells, while other wells on the lease were making most of the expense.

Examination of the worst wells convinced him that there was nothing that could be done to them that would be certain to restore them to a measure of youthful pep and vigor. And, so they were ordered plugged, and the salvaged equipment either sold, or used to repair the wells which were to be continued.

Typical of such a group of properties were two leases which the company owned in the same district. The same company also owned two other properties in the same pool, although the latter two had been showing some profit. The four leases were operated by three pumpers, these men's salaries being allocated equally among the four leases in the cost records.

Concerned principally at first with the two losing leases, it was found that one of them, comprising three wells on 120 acres was making some

Today, They Go to the Butcher

YEARS ago most of the dairymen included in their herds a number of cows that were merely "mulies" and had never produced much milk, or elderly cows that had once been good producers. They went on feeding them year after year, letting the prolific milkers pay the board bill of the poor ones.

Some authority on dairying applied the term "star boarder" to such animals. Today the dairyman watches closely the "individual gauges" on his cows and the one that fails to make him a profit goes to the butcher.

The same close reckoning is applied by many oil companies to their properties in that the well is treated as the producing unit. The accompanying article is an account of the way one small company set its house in order and eliminated the "star boarders" among its oil wells.

With the prospect of continued high production, calling for measures of restraint and consequently little chance of betterment of price, operators are compelled to adapt themselves to conditions. To do this some such procedure as is outlined in this article is imperative.

two barrels of oil per day, with the production about equally divided between the three of them. The other property, which had six wells on 80 acres, was making about six barrels total production per day, with practically all of it coming from four of the wells.

For the five months previous to the investigation, the average cost per barrel for the first lease had been $2.62, and the average price had been but $1.18 per barrel. In other words, the net loss per barrel of oil produced had been $1.44.

On the second lease, which was making six barrels of oil per day, conditions had been a little bit better, the oil having been produced at a profit of 23 cents per barrel.

The first lease was ordered abandoned, as were the two unproductive wells on the second. They had been producing in the Siliceous lime, and had been making a high percentage of water, so it was evident that repressuring could hardly be considered feasible.

The savings that resulted totaled almost $400 per month. The reduction in expense by abandoning the first lease amounted to $150 per month, and those on the second lease to $200 per month. One pumper was dispensed with, and this saving in the allocated expense of maintaining him, along with the additional cost of supervision, brought the total savings to close to $400 per month.

The capital account was credited with nearly $9000 for the salvaged equipment sold, or otherwise disposed of. It cost about $2500 to do the plugging and abandoning work, resulting in a clear net profit, if only the interest at six per cent on the salvaged money were figured. And the only loss in production that occurred was the two barrels per day which had been costing $1.44 per barrel more than they had been making.

The other leases in the district are coming in for attention now. They comprise two 80-acre tracts, and seven wells. All of the wells are on the beam, with 15/30 electric motors being used to pump the wells and to pull tubing and rods. Analysis of the per well costs has shown that each well has about $80 per month in the way of a power bill to pay off before it can even b gin to start showing a profit. The per barrel cost of the production from these wells is 61 cents, of which 27 cents is for power.

Considering the depth and the amount of fluid these wells are making, this is entirely too high. The engineer and the superintendent both feel that the wells are overpowered, and that if smaller surface equipment could be installed, and the wells serviced with a tractor, that per barrel costs could be reduced. It is a reduction in per barrel costs which leads to profits, they say.

These wells are also producing in the lime, and are making water. But, they are not making enough total fluid to make it necessary for them to be pumped 24 hours per day. However, to offset this fact, the wells make a large enough percentage of water that if they are not kept pounding down constantly, the water gets ahead of the oil, and great difficulty is experienced in getting the wells back on production.

With the type of rig in use on the wells it is considered impossible to slow down the rate of pumping to a point where the proper amount of fluid can be kept coming at all times, but the strain on the rods will be reduced sufficiently to lower the present high rate of pumping equipment trouble.

So hard are the wells being pumped that it is necessary to maintain two pulling crews, one a day crew and one a night crew, to service the wells as soon as trouble develops. This means an unusually high labor bill, in addition to the power bill which must be charged against the wells.

Although the remedy for this situation is still in the speculative stages several changes are being considered. The first thing which it appears advisable to do is to get rid of the big motors, and replace them with prime movers which will cost less to run. It is estimated that something around $500 salvage can be realized from each of them, so that the cost of making the equipment changes will not be too heavy.

Among the changes being considered are: the installation of gas engines, whose operating cost under these conditions would be considerably lower than the motors now used; a different type of pumping unit, which can handle the wells with a much smaller motor, and much less expense than the present big motors; the construction of a central power. The last named is being considered somewhat idly, as the physical character of the wells demands that they be kept going as much as possible, and a down power would mean that all of the wells would be off at the same time.

In any event, the purchase of a tractor to service the wells is practically assured. If gas engines are installed their use as the power plant to pull rods and tubing means that they will be subjected to a rougher treatment than they are designed for, with a consequently high maintenance cost. So far as operating the gas engines economically, the presence of abundant gas will, it is felt, be a guarantee of a lower power cost per barrel than the present 27 cents.

Chief among the possible types of new equipment that are being considered is the individual well pumping unit, electrically operated. These are powered by small motors, which drive a pitman through a set of reduction gears. The pitman actuates a beam with a mule head connection to the polish rod. This type of unit will handle the production with much smaller motors than those required for the usual type of pumping rig.

Of course, no two properties are alike in all their phases, and the mechanics of making one lease pay will not always work on other properties, even though it may appear quite similar in condition. But one thing has been found universally true, and that is to make any lease pay as much as it can, the unprofitable wells must be recognized, and their troubles cured or the wells abandoned. The unit of operation of the producing industry is the individual well, and not the lease, the district, or all the properties combined. There is no necessity for humanitarian measures with an oil well.

Ward B. Blodgett, whose smile never wears off, is production manager of the Chanslor Canfield-Midway Oil Co., petroleum subsidiary in California of the Santa Fe railroad interests. He makes his home in Los Angeles

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NASHVILLE, Tenn.—Location for an oil test has been made in Wayne county, about eight miles east of Waynesboro on the Lawrenceburg pike, and an 84 foot derrick is being erected. The test is being made following work in 1921 by the Tennessee State Geological survey in cooperation with the U. S. Geological survey. Western Oil & Gas Co., backed by New York interests, is the operating company.

NEW YORK—The Bureau of Standards contemplates issuing circular letters giving digests of recent publications on soil corrosion and pipe line protective coatings, so the American Petroleum Institute has been informed.

Prime Mover Costs Kept Low By Detailed Record System

By John Power
N. P. N. STAFF WRITER

TULSA

LOCATING costs accurately is one of the first steps in eliminating them. By installing a system of cost records for all types of prime movers in the field one of the major companies is endeavoring to ascertain which of its engines is exceeding the proper operating cost. And the information is being gathered in such a way that it is possible to tell exactly where the trouble is, whether it be in a part of the engine, or due to the treatment it is receiving.

The cost record system which has been put into effect is similar to the same company's cost record system used in keeping track of the company automobile expense. In fact, it was due to the success of the automotive division's record system that the system of checking each engine was installed in the other departments.

The records are kept on individual pages for each engine the company owns, the pages being 12 inches by five inches. One of the ends is perforated in order that the page may be kept in a loose leaf type of book. The sheets on which the records are kept being narrow, it is possible to lay them into the binder book in a sort of terraced fashion so not too much space need be taken up for each engine's record.

In practice the company keeping the records places in the sheets in such a manner that only the bottom line shows below the bottom of the sheet placed on top of it. The bottom line of the record sheet contains such information as makes it possible to identify the particular engine it covers at a glance.

Across the top of the record sheet, and starting about one inch from the left hand edge, is a series of headings covering general information. The first of these is the type of lubrication, the second the date the engine was put in service, third the date of its present installation and last, in the upper right hand corner, the district number in which the engine is operating.

Starting in again at the left hand edge of the page appears a series of columns under whose headings additional information can be listed. The first of these headings or columns is for the date of the entry, the second for the transfer purchase order number. The third column is headed description, and contains a brief outline of the sort of trouble, or the department that supplied the repair. The next column is for a keyed symbol which shows the kind of trouble that developed.

Next in order is a triple spaced column entitled material repairs, with subcolumns for debit, credit and total figures. When a new part is furnished an engine it is charged with the cost of the part. When a part is removed from the engine for any purpose, the engine is credited with the value of that part. At the end of the month these debits and credits are balanced and the total is set down.

A double spaced heading is next in the list of headings, being entitled labor repairs. Under this heading are the subcolumns of debit and total, as naturally all labor repairs on an engine are of the debit variety.

Immediately on the right of the columns for labor is a column headed Grand Total Repairs. It is quite natural that this column should come in for particularly close attention when the record of the engine is being examined.

The next column, headed Lube Oil, is subdivided to provide space for information covering the amount and the kind of lubricating oil used. Next on the right is a column under the heading of Hours Operated Daily, information which helps to give a line on the number of engine hours with

LUBE SYSTEM Force — DATE IN SERVICE 1918 — DATE PRESENT INSTALLATION 1918 — DISTRICT 1

DATE 1929	TRANSFER OR C. O. NO.	DESCRIPTION	FOLIO	MATERIAL REPAIRS DR.	MATERIAL REPAIRS CR.	MATERIAL REPAIRS TOTAL	LABOR REPAIRS DR.	LABOR REPAIRS TOTAL	GRAND TOTAL REPAIRS	LUBE OIL AMT.	LUBE OIL KIND	HRS. OPR. DAILY	REMARKS
11-1	FM-5457	Bad Order	B		12 62								Installed 5-17-18
12-1	M 6247	" "	L		34 00								
11-4	10742	Semi-rot. Wa	A	20 00									
Sept	Machine Pipe Repl		C				9 56						
Sept	" Lub Oil Rept				Bo	32 62		P 36	74 96	3750	RLOil	14½	
													Engine moved Semi Wtr Sys. 12-14-29.

Junk Water System — WELL PLANT NO. Water Pumping Unit 2 — REG. NO. 3477 — MAKE Bessemer — SIZE 80

DOWNE-ESSBROLIN COMPANY 817-47

Engine record sheet

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Reduce your refining costs.

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NEWARK, NEW JERSEY

which the engi[illegible] can be credited.

The last column on the page is the usual one found on most records, and bears the familiar title Remarks. Here is set forth such information as the exact date of installation, where and when the engine has been moved to, and the miscellaneous information, valuable but too general to be classified.

A [illegible]om row of columns which are all [illegible] is visible when the sheet is in [illegible]e in the book, tells where and in what plant the engine is located. It gives the well number, if that is [illegible]ed, the engine's register number, the make, and the size.

From the information obtained from the sheet above described a monthly tabulation is made up for each engine. This tabulation is headed as follows: Make, size, total engine operating months, engine months, the latter being sub-headed for the months by name and the average number of months. Then comes a column headed Net Cost Repair Material, under which the net repair by months and the average is, listed. The last column is headed Cost Repair Material per Engine Month. Under this head are listed the months by name with the cost of repair material per engine month and the average.

Records of this type are kept on engines, with the books or ledgers su[illegible] divided for pumping units, air l[illegible] plants, vacuum stations, water stations, pressure plants and gasoline plants.

By keeping the records accurately, and by studying the information to be gathered from the records, it is comparatively easy to spot engines which are exceeding their share of the maintenance cost. Through the records it is also possible to get a fairly clear idea as to whether or not it is the fault of the engine, the fault of the work it is doing, or whether the blame for excessive cost is due to the bad treatment it may be getting.

The Brown Instrument Co., Philadelphia, Penna., has recently issued an illustrated folder showing the wide uses to which its line of indicating and recording instruments are adapted. Pyrometers, resistance and recording thermometers, tachometers, flow meters, pressure gauges and CO_2 meters are illustrated and their uses and advantages are discussed briefly.

To typify in a more practical manner the work for which these instruments are employed the folder is illustrated with photographs showing the installations, in the plant of the Indian Refining Co. at Lawrenceville, Ill., of Brown meters in the Govers process for the manufacture of vacuum-distilled and dewaxed lubricating oils. The entire plant is controlled with the aid of Brown apparatus, from the diphenyl vapor heating plant for heating the vacuum stills to the CO_2 recorders in the stacks and the recording thermometers in the condensers.

ADVERTISING PAGES REMOVED

Modern Refining—Science and Practice

By Colonel George A. Burrell*

Article 5

Column Temperatures; Top Reflux; Fractions per Column; Coking and Corrosion; Operation and Tower Efficiency

THE temperature employed at the top of a fractionating column must be practically the boiling point of the overhead product; otherwise this overhead product cannot be refluxed back.

If an alcohol-water mixture is being rectified the temperature at the top of the tower must be 78.15 degrees C. This is the boiling point of a constant boiling mixture of alcohol and water (the azeotropic mixture) which is the product that it is desired to obtain. The temperature at the bottom of the column is that of boiling water at the pressure maintained. The pressure is generally a little above atmospheric pressure.

If natural gasoline is being rectified so as to distill overhead the propane and lighter fractions, the temperature at the top of the tower must be the boiling point of propane, modified, of course, to the extent that the partial pressure of the propane is changed by the presence of a small amount of ethane and butane present.

Higher temperatures must be employed if there is pressure on the column. One must employ a temperature corresponding to the pressure. At most plants rectifying natural gasoline the overhead cut will consist of propane with some butane and ethane; possibly a little methane.

In the case of refinery gasoline or other distillates, the question is still more complex. The overhead product is a mixture of many hydrocarbons. An average boiling point is selected and the top of the column set at such a temperature as to again give the maximum salable quantity of gasoline. This temperature must be closely regulated and automatically controlled. Much of the success of towers in refinery practice is dependent on how closely the operator controls this temperature.

The temperature at the base of the column (the still) must be such as to boil the material being rectified. This temperature, like the overhead temperature, will depend upon the pressure on the material and boiling points of same. The greater the temperature difference between the boiling points of the constituents to be separated the easier the separation can be accomplished. Manifestly, if the temperatures are the same there can be no separation whatever.

The temperature drop can be increased in a tower working with a given throughput by increasing the bottom temperature and keeping the top temperature the same by adding more reflux. The temperature drop can also be increased by lowering the top temperature and keeping the bottom temperature the same, but in that event the quality of the overhead product would change. Of course the limit of temperature difference is the difference between the boiling points of the top and bottom cuts at the pressure employed.

Pumping Reflux Back into the Column

Condensed liquid is pumped back into the column to produce reflux needed for the column. This material must be that which has come from the top of the tower, i.e., the overhead distillate.

However, rather than pump back condensate into the column it is customary for some refineries to so control the top of the column with a temperature sufficiently low (usually by means of the charging stock passing through a coil) as to reflux the condensate back at this point; not let it all go overhead and then pump some of it back. Many refiners prefer this method.

In pumping back condensate from the overhead cut there is secured partial cooling at the top through the use of the pumped condensate itself, i.e., the condensate which has just left the tower and been more or less cooled. In the other practice there is secured this same degree of partial cooling by means of some of the crude stock or a distillate. In any event these fluids too have to be pumped.

One plan is to erect a partial condenser alongside the top of the column, so reflux will drain back into the column. This calls for scaffolding to hold the condensers at the top of the column. The particular arrangement selected will be governed by the degree of heat exchange contemplated and the corrosive nature of the oil.

Velocities

Velocities in a column are high enough to force much of the liquid off the plates. A liquid level must be obtained, however, above the level of the downcomer pipe. The phase present in largest volume, the vapor phase, must be finely divided and bubbled through the liquid. This is accomplished by high velocities and serrated or slotted caps.

Deformation[1] and breaking up of bubbles follow and this makes for good contact between vapor and liquid. On the other hand, if velocities are too high the vapor remains in the column too short a time and the final separation is imperfect. Again, if velocities are too high the flow becomes turbulent. Entrainment takes place and excessive back pressure is put on the still.

Superficial velocities, i.e., velocities through the spaces between the plates (not the chimneys or beneath the

*Consulting Chemical Engineer, Pittsburgh, Penna.

1 A. G. Peterkin of the Atlantic Refining Co. finds that the interchange which takes place in a bubble plate column probably is not to any great extent a question of a distorted vapor bubble offering a maximum surface in passing through a pool or liquid; rather a dense shower of drops suspended in a vapor stream.

TRANSIT RED HEAD TONGS

Are pipeline grade

Hard work shows up the stuff in tongs.

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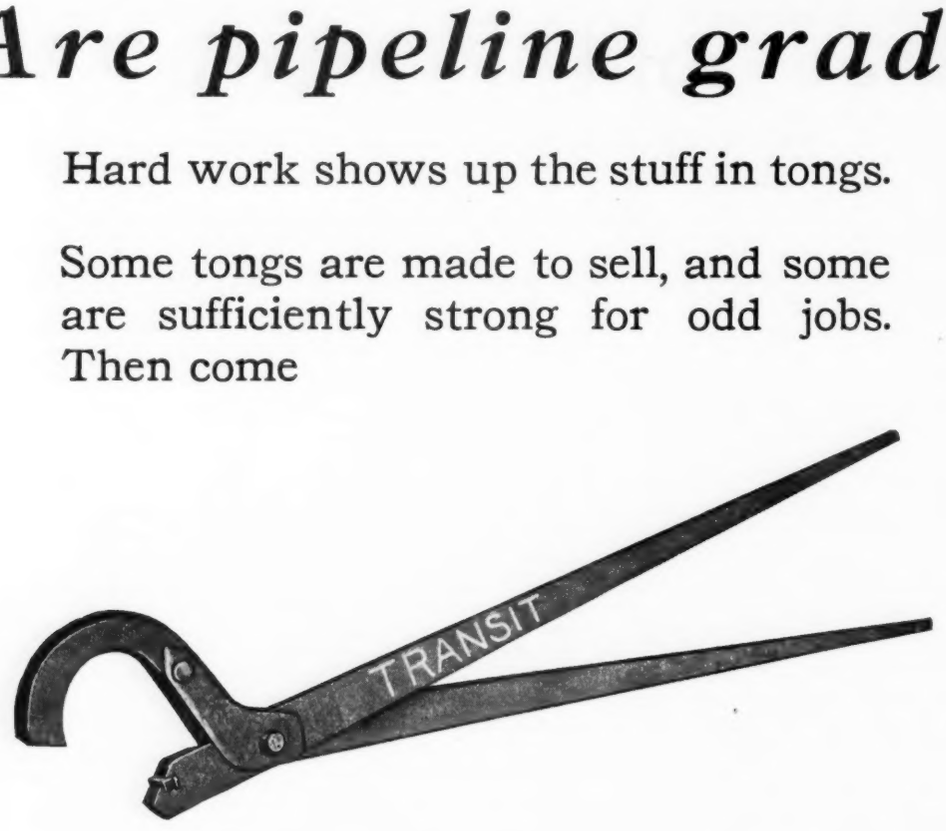

TRANSIT RED HEAD TONGS

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They have been a standard pipe line construction tool for over forty years. You can recognize them on all the big jobs by their Red Heads.

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DISTRICT OFFICES

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Agents

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

caps) run, for atmospheric pressure columns, up to 2 lineal feet per second. E. H. Leslie has informed the author that he has operated a column at a vapor velocity of 3.5 feet per second, a rate he had not thought possible. Liquid depth on plates, at rest, varies up to several inches.

Number of Plates or Decks

Distillations and condensations take place on the plates. There should be enough of these plates to provide the correct number of redistillations for the final purity of the distillate depends upon the number of plates, other things being equal. These, in turn, depend upon the reflux ratio.

The greater the refluxed liquid the smaller the number of plates required. It often happens that far too many or too few plates are provided but good separations are made regardless, because the reflux ratio is changed to fit the column. However, too many plates entail needless initial expense and too few of them demand that too much reflux liquid be returned to the column.

This latter condition reduces the capacity of the column because the net overhead distillate is of small amount.

Plates should be spaced at such distances apart as to allow vapor disengaging space for the distillate from the plate below. Practice in the petroleum industry has placed these plates about 10-24 inches apart. The more efficient the plates the less the number required. The Badger company of Boston builds most of its columns with plates 24 inches apart. This is more than is necessary but there is thus provided space for putting a manhead between each two plates, so that the column can be entered to be cleaned, or repairs because of corrosion can be made. The number of plates per column varies from 5 to 25 in different installations but averages about 11 to 15 for the more efficient columns of only one overhead cut. These have been determined from actual experience.

Number of Fractions from One Column

There is only one sharply separated fraction obtainable from a column. This can be the overhead or base cut. If it is the overhead one, it will not contain any base material, but the base material will contain some of the overhead fraction. Similarly if the base cut is freed of the more volatile component the overhead cut will contain some of the base product.

If one is separating gasoline from kerosene there will still remain in the kerosene some more gasoline, and the only way it can be freed of the gasoline is to subject it to further rectification in another column; in a stripper column. By this second rectification the kerosene can be freed of all but a negligible portion of its gasoline. Theoretically the gasoline cannot be entirely removed no matter how many rectifications are employed.

It matters not what expedients are employed; this general rule applies. *In the normal column only one well fractionated cut can be made.*

Size of Plates and Number of Caps to a Plate

As already stated, for a given amount of reflux the number of plates is responsible for the final purity of the overhead distillates. The feed must be redistilled a sufficient number of times to obtain a pure distillate. While the number of plates fixes the quality of the overhead product, it is the diameter of the column and apertures in the plates that fixes the quantity of material processed through the column, i.e., fixes the capacity of the column.

As stated before, the original bubble column had one cap per plate. This may have been a big or little cap, depending on the size of the column. Then more caps were added. A given amount of material can be put through one cap per plate of large size say, but if that same amount is put through a large number of caps per plate, the vapors will be broken up more; more intimate contact between vapor and liquid will be provided, and since each plate will, therefore, possess greater efficiency, there will not be needed as many plates, as though fewer caps were used. In other words, the height of the column will be shortened.

Columns are being made of greater diameter and of more plates all the time. A practical limitation will be the ability to so design them as to have the plates level to provide even distribution of the liquid thereon. It is not easy to make the plates level in a 10-foot column, for instance. Further, in large columns the plates warp and run dry so that vapor goes on through without any liquid contact.

The slots in the caps divide the vapor streams and bring about the necessary contact between liquid and vapor. They must not be made too small, however, or excessive back pressure will develop in the tower and still. Caps are raised about ½-inch above the plate to allow solid matter to wash away and to provide a large enough opening to allow escape of excessive vapor to flow at any time. Caps are usually made circular, although one finds them of different shapes.

Downcomers

By these are meant the chimneys in each plate returning reflex to the plate below. One or more are provided per plate and they are so spaced that the downcomer on a particular plate is placed at the opposite side of the column from the downcomers on the two adjacent plates.

In this way the liquid has to travel clear across a plate to find its exit to the plate below. Hence the liquid is brought more intimately in contact with the upcoming vapor.

Equilibrium in a Commercial Column

Under ideal conditions in a rectifying column equilibrium should occur between the rising vapor and descending liquid, but this does not take place in commercial columns because each of the fluids involved enters and leaves a given plate at all times. Consequently one can only secure some approach to equilibrium.

Coke on the Plates and Corrosion

Salt from the oil, and coke from slight cracking may in time plug the plates. This may happen in a few months or many years, depending

Steam and Vacuum Distillation

Function of steam in reducing boiling point of oil is explained according to Dalton's law of partial pressures, by Colonel Burrell in Article 6 of his series on Modern Refining.

Formulae are given for figuring the vapor pressure and hence the boiling point of various mixtures of oil and water to show how much steam is reduced for a given result.

Just how steam works in the still to reduce the boiling point of oil.

Superheating steam for process use is advantageous because it expands its volume and makes it possible to get the desired result with less steam.

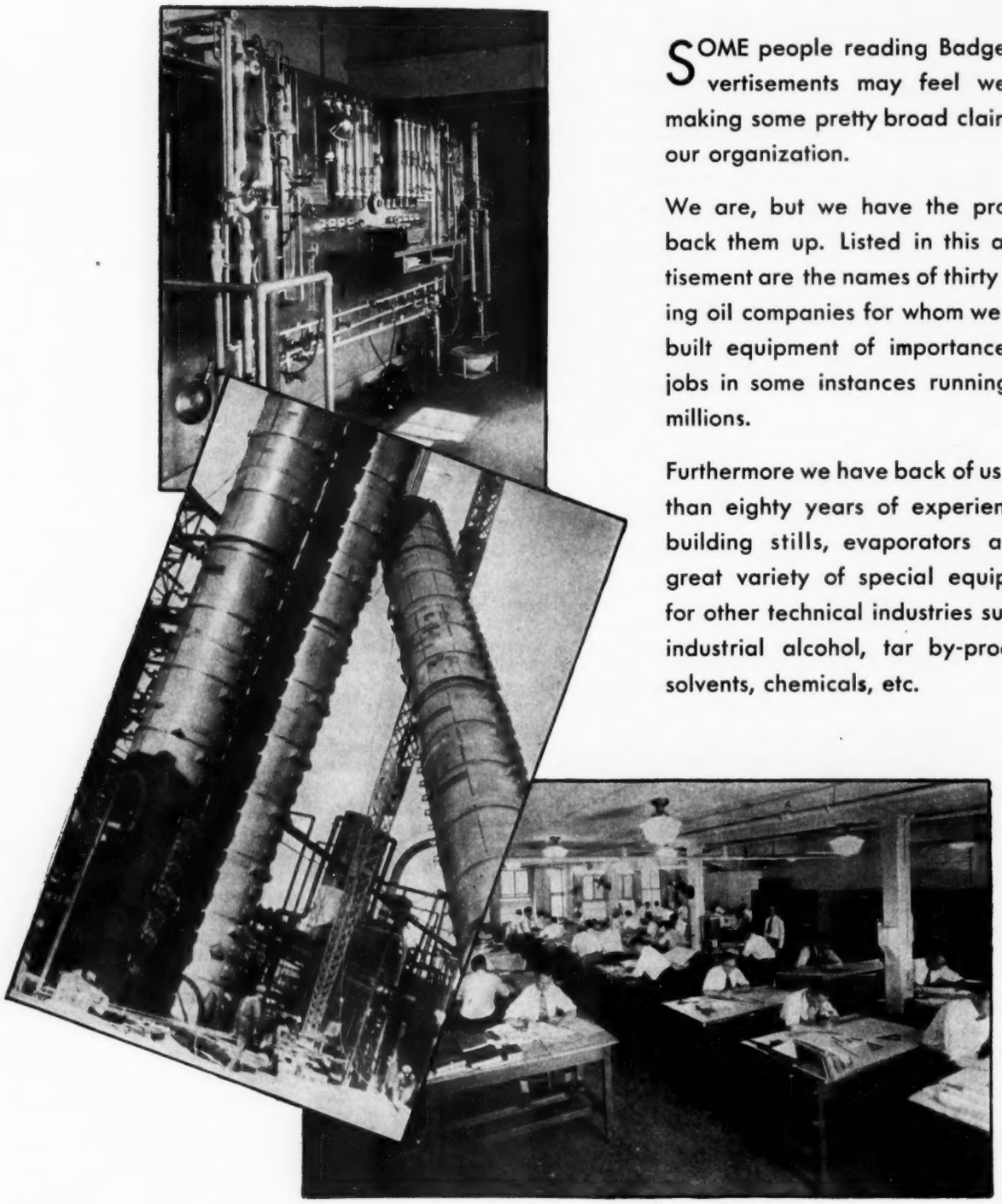
Colonel Burrell says:

"Every vaporous constituent of an oil in a still exerts its partial pressure effect upon every other vaporous constituent, just the same as the introduction of steam exerts a partial pressure effect. This effect, as applied to the oil vapor, is sometimes called the 'steam stilling' effect. This is important, as otherwise more steam would have to be added."

Vacuum distillation is just recently coming to the front. Various methods of applying vacuum to distillation processes are sketched by the author in

ARTICLE 6 ON MODERN REFINING NEXT WEEK

ARE WE



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upon the type of oil, temperatures employed, velocity in the tower, etc. Hence towers must be simply designed and the interior must be easy of access by means of manways and manholes. In early bubble columns all of the plates had to be taken out of the top of the tower to clean them.

Towers also corrode badly from some oils; from hydrochloric acid set free when magnesium chloride hydrolyzes, and from sulfur. The reflux coils and top decks below them are first affected. A convenient arrangement is to provide extra sets of caps so they can be used while dirty ones are being cleaned.

Uniformity of Operation of Fractionation Columns

Fractionation columns should be operated as smoothly as possible with the least possible variation in the feed supply (both quantity and quality) and in the amount of reflux returned to the column and in the temperature at the top and bottom.

Simplicity of construction, efficiency of plates and caps, accessibility, durability, and other factors enter into column efficiency, but the efficient operation of a tower depends more than anything else, on careful control of feed, reflux, and temperature. than it does upon construction variables, granting that the tower has sufficient capacity and provides for good contact between liquid and vapor.

Tower Efficiency

Towers are usually rated according to the efficiency with which they separate the components of a mixture. In the case of crude oil the separation between the gasoline and kerosene fractions is the most important. The Engler boiling point ranges of these fractions vary, but at the moment gasolines of 400 degrees F. end point (Engler) are not uncommon, and kerosenes frequently have an initial boiling point from 350 to 425 degrees F.

A tower unit would be called an efficient one if the gasoline fraction had an end point of 400 degrees F. and the kerosene as it came off had an initial boiling point of the same order.

An overlap of 25 degrees F. would be called fair, and one of 50 degrees F. poor. However, there are many towers that show a "gap" of considerable magnitude between the two fractions, but here the mixture has to be heated more, more reflux has to be used or more decks employed. All this costs money, hence there is danger in going too far in seeking wide gaps. The end may not be justified by the means.

It is appreciated, of course, that there is no gap between the hydrocarbons in the true sense of the term. Boiling points lie too close together to make a true separation of the products. Further, the Engler or Hempel method of distillation does not show true boiling points, by a wide margin.

The principal petroleum fractions that are separated in a column are gasoline, kerosene, gas oil, wax distillate, neutral oils, wax slop, cylinder stock, asphaltic residues and fuel oil. The separation of gasoline and kerosene interests more refiners than the other cuts, and here the boiling points are the most widely separated, hence ease of separation is greatest.

Gasoline has an average boiling point of about 270 degrees F., and kerosene about 480 degrees F. This is a difference of 210 degrees F. The difference between the average boiling points of kerosene and gas oil is about 120 degrees F., and the average boiling points of gas oil and wax distillate are still closer together.

But the wax distillate fraction is not a sharply cut one. It has to have enough gas oil in it to make it pressable.

In many cases side streams are taken from a column so that in addition to the top distillate cut, additional ones are removed from various plates in the column. Taking off side streams robs the column of reflux normal to the column, at the point where the side stream is removed, hence not enough reflux is available to condense and wash out of the rising vapors heavy undesirable ones that are not wanted at this point. Further, light ends contaminate the side streams.

Espach[3] found that fractionation of crude oil was good in a tower, without reboilers, when the oil was only divided into two products, a base cut and a top cut, that it was poor when a middle cut was taken off, and of no value when more than three products were obtained. His work was done in a laboratory column exposed to a uniform temperature in a laboratory.

Practice is to add a limited number of plates and small auxiliary columns (reboilers or strippers as they are called) to the main column to strip the side streams of their light ends, and return the overhead to the column at a point just above the place where the side stream is withdrawn.

Thus a side stream can be withdrawn at such a plate as to remove the cut desired, say kerosene, and this is put into a stripper column where any gasoline fraction it contains is boiled out and returned to the tower.

Thus the main tower is not robbed of as much reflux oil and the side stream is obtained uncontaminated with a lighter oil. Espach found that one stripper column took the place of five bubble trays in the main column, in fractionating a certain crude oil

[3]U. S. Bureau of Mines, Reports of Investigations, Serial No. 2892, Oct. 1928, p. 7.

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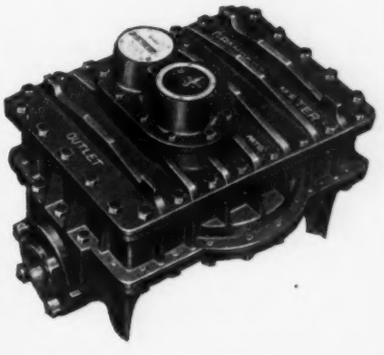

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he worked with, and taking off a top, bottom and side cut in each case.

Thus one can return light ends to a column, from stripper columns, or can add additional plates, all to correct for the taking off of side streams, but these expedients are only partially corrective. For the sharpest separations, where these are desired in the case of lubricating distillates, say, one has to revert to the practice of installing one less column than the number of cuts desired.

It is interesting to follow some of the multitude of designs of column combinations that have been installed by various refiners in the past few years.

One company uses a tube still, a flash chamber and three towers. Crude oil is preheated in the reflux compartments of the towers, serving as reflux control therein, and in a coil in the base of the flash tower, passed to a tube still, and flashed into the third tower, from the top of which gasoline is removed.

Bottoms are reheated in another tube bank in the still and flashed in the flash chamber from which fuel oil is withdrawn. Overhead goes to the first tower from the bottom of which wax distillate is withdrawn and serves as a heating medium for the base of the second tower. Overhead from the top of the first tower goes to the second one from the bottom of which gas oil is withdrawn and from the top of which kerosene is taken off.

Thus five fractions are taken from four towers, counting the flash chamber as one tower. Granting that the flash chamber is an adequate fractionating tower the writer would say that the system represents good practice.

Another refiner has one main column and two stripper columns to take off gasoline, kerosene, gas oil and fuel oil. Crude oil is flashed into the bottom of the main column instead of into a preliminary vaporizer as in the preceding installation. Here we find four fractions from three columns, i.e., one more fraction than the number of columns employed, just as in the previous one.

Crude oil passes first through a reflux condenser at the top of the main column, then through a series of heat exchangers where heat is absorbed from fuel oil bottoms, (taken from the bottom of the tower), and then passed at a temperature of 275 degrees F., to a separator where water is deposited, and then into a tube still where it is heated to 550 degrees F. The heated oil then enters the main column where gasoline is taken off overhead.

A side stream is kerosene stock and a lower one is gas oil. These are refractionated in their respective stripper columns and overhead therefrom passed back to the main column. The gas oil stream furnishes the heat in the kerosene reboiler. No additional heat is supplied to the gas oil stripper column. The writer would say that the improvement in this installation over the preceding one lies in making the lower part of the main column the flash tower, i.e., in providing a good fractionating arrangement for this purpose instead of an ordinary flash tower or tank that contains no plate or baffling medium to provide good rectification.

Theoretically, otherwise, the preceding one should provide the best fractionation. It follows established principles of perfect rectification. Practically, however, the main column of the second installation can be provided with enough plates so that one large column and two small ones can do as much work and virtually as efficiently for the purpose desired as three towers hooked up as in the preceding installation. For equal capacity and equal work to be done, the cost should be about the same, providing that in each case all possible heat exchange is provided.

Another refiner heats crude oil in a pipe still and flashes it in a flash tank, from which the bottoms (asphalt) pass out, and the vapors pass to the first tower from which naphtha passes overhead to a second tower where it is further fractionated, gasoline passing overhead, and bottoms serving as reflux for the first tower.

Bottoms from the first tower are gas oil. Here the reflux oil for the first tower is not the same oil as the overhead from that tower, hence the unit suffers in this respect. Presumably the gas oil fraction is desired as the closely cut one from the first tower, hence the top cut has to be refractionated to closely cut out the gasoline.

Of course in discussing rectification practice from the standpoint of sharp separation one has to bear in mind what degree of separation a refiner desires. What may suit conditions at one plant may be considered intolerable at another plant.

At another installation six fractions: gasoline, naphtha, kerosene, gas oil, wax distillate and fuel oil are taken from two towers. Two banks of tubes in a single heating furnace are used to heat the oil.

Crude oil is first passed through reflux condensers in the top of each tower, then through a fuel oil heat exchanger (fuel oil from the bottom of No. 1 tower) after which gasoline is flashed off at a temperature of 350 degrees F. Bottoms are forced through a bank of tubes in the tube furnace from which they travel to tower No. 1 at a temperature of 600 degrees F.

Bottoms from No. 1 tower are heated in the second bank of tubes to 750 degrees F., and passed into tower No. 2. Gasoline, naphtha and kerosene are taken from tower No. 1 and gasoline, gas oil, wax distillate and fuel oil from tower No. 2.

Another installation consists of a tube still and four towers, producing gasoline, naphtha, kerosene, gas oil and fuel oil. Most of the gasoline is taken from the preheater (by heat exchange) in No. 1 tower, bottoms from which pass to a tube still, where they are heated and pass to No. 2 tower.

Overhead vapors from this tower are fractionated in No. 3 and 4 towers. From the top of the latter tower naphtha is removed, and from the bottom, kerosene. Gas oil is removed from the top of No. 3 tower and fuel oil from the bottom of No. 2 tower. Part of the fuel oil from No. 2 tower is used in a reboiler in No. 1 and 4 towers.

Another installation consists of a tube still and a single tower from which is taken off gasoline, kerosene and gas oil, paraffin distillate, wax slop and cylinder stock bottoms. Crude oil is heated to 750 degrees F. No reboilers are used to fractionate the cuts. A temperature gap of 6 degrees F. is maintained between the gasoline and kerosene-gas oil fractions, and an overlap of 30 degrees F. between the kerosene-gas oil and paraffin distillate fractions.

The most modern practice is to heat and fractionate oil under a vacuum. In one installation (Mid-Continent crude oil) the crude oil is first heated in a tube still and passed to a tower where light oils are removed overhead and as side streams and fuel oil from the bottom. This fuel oil is then heated in another tube still and fractionated in a tower, both still and tower being under a vacuum.

A directly pressable wax distillate is taken overhead, a neutral stock is taken off as a side stream, and a heavy asphaltic stock is removed from the bottom. This residual stock contains most of the coloring matter and a waxy portion that inhibits good crystallization if allowed to remain in the wax distillate.

The side stream neutral oil is rerun in a tube still and fractionated in a tower into overhead naphtha, side stream gas oil and neutral oil (using stripper sections) and residual bright stock. A maximum oil temperature of 775 degrees F. and a tower temperature of 660 degrees F. is reached in the vacuum installation.

The various fractionating practices described in the preceding pages cannot be critically examined without a careful study of all the factors that influenced the installations. Some refiners want sharper fractionation than others, some have converted material at hand, in some degree, to their needs, some can only spend a limited amount of funds on improvements, and some look askance at rapid obsolescence of their units and keep them as long as possible, etc. But from the standpoint of the best fractionation certain cardinal principles

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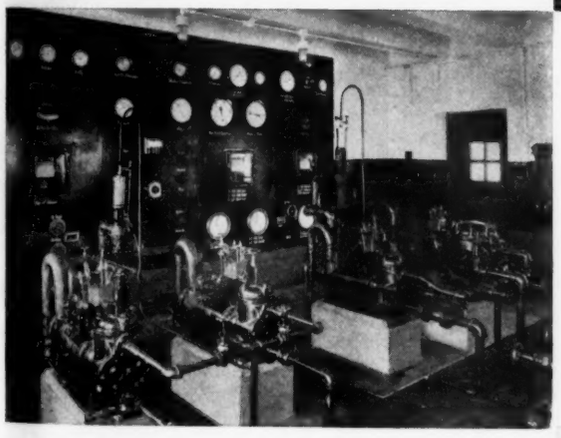
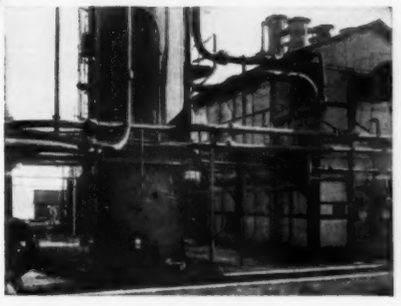


One corner of the pump house, showing part of the centralized control panel



A close-up of the Smith Pipe Still

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We ordinary mortals can look just one way at a time. Looking back at 1929, most of us can congratulate ourselves; the year's voyage was a success. True, in October we had a brush with a submerged rock. But . . .

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cannot be violated. These include:

(a) The column must have capacity to do the work desired. This is dependent upon the diameter of the tower, and apertures in the plates.

(b) It must have enough plates to fractionate the cuts. The number of these fixes the sharpness of separation.

(c) Ample reflux must be provided. As already stated, a column can theoretically have no reflux and an infinite number of plates, or total reflux and a limited number of plate. In this event there is no overhead product. One must equate fuel consumption against column cost.

(d) Reflux should be of the same composition as the distillate fraction.

(e) There should be as little loss of heat as possible.

(f) A column should be worked in a uniform manner. The flow into it should be uniform, the temperatures at the top and bottom remain constant, and the reflux uniformly applied. This matter of uniformity of operation is highly important.

Columns can depart in considerable degree from the above principles and still do work considered satisfactory at a particular refinery. It is endeavored to secure the gasoline cut as a completely extracted one. As between kerosene and gas oil the same sharpness of separation is not desired as between gasoline and kerosene, and the gas oil and wax distillate fractions heavily overlap for the latter cut needs a large amount of gas oil for the pressing operation.

Neither is wax distillate sharply separated from wax slop, or wax slop from cylinder stock.

Different equipment companies adopt various expedients for distributing reflux uniformly over the decks, and columns vary somewhat in the accessibility of the plates and caps for inspection and cleaning. Different shaped caps are used in different columns and different makes of control instruments. The number of decks will vary to do the same work, meaning that the reflux has to vary as a consequence, and some companies utilize waste heat in heat exchangers to better advantage than others.

As already noted, some companies use a multiple of columns in the orthodox way, some use on column with side streams with reflux coils built in at various plates; some adopt one column with side streams and reboilers, and some use a single column and side streams with no reboilers.

However, this can be said: for a given separation and capacity, working on a given amount of a certain stock, and with a given reflux, a certain column diameter and given number of plates must be used, and a given amount of heat must be put into the column and a given amount taken out. That this is done more efficiently in some installations than others almost goes without saying.

Magnolia Refinery Band Composed Entirely of Plant Workers

Staff Special
HOUSTON, Jan. 3

THE 45-piece refinery band of the Magnolia Petroleum Co., at Beaumont, long a broadcasting feature of Radio Station KFDM and now designated the official band of Texas, is composed entirely of workers in the Magnolia's Gulf Coast plant.

In the beginning, the company adopted a policy of selecting musicians from its own organization. The rule has been adhered to strictly, band members ranging from painters and machinists to stillmen and timekeepers, among others.

Caliber of the band is attested by its record in a recent contest at the Texas State Fair in Dallas, where the Magnolia refinery musicians were awarded first prize and a silver cup in the industrial group; first prize and silver cup in the sweepstake event; and the designation of official state band. In addition, the band's director, R. A Dhossche, was awarded the gold medal as winner in the bandmaster contest.

The refinery band is not to be confused with the Magnolia Band at Dallas, a separate and distinct headquarters group of musicians, who are also widely known for their talents. The refinery band, organized in 1921 at Beaumont, with nine men, was headed originally by Dr. Harry Cloud. Its size was increased gradually until 1925, when radio broadcasting was inaugurated through the Magnolia station KFDM. It then consisted of 30 pieces. Mr. Dhossche succeeded Dr. Cloud in 1926, since which time the band has been developed to a membership of 45 pieces.

Twice weekly, on Tuesday and Friday nights, the Magnolia refinery band has been a regular feature of Radio Station KFDM, owned by the

First Row—(left to right) E. J. Lakits, Storehouse man; Thos. Metzer, machinist; Gerald Thomas, painter; Ray Fields, painter; R. A. Dhossche, band director; George Fairleight, painter; L. E. Ammonette, painter; K. Konchi, painter; E. E. Dickens, stillman

Second Row—J. H. Tucker, painter; August Rutch, painter; Marvin Partin, painter; George Gamble, boilermaker; A. M. McWhorter, boilermaker, A. B. Yoder, sub-foreman; W. E. Sledge, boilerhouse; F. W. Rethmer, painter; F. Nicholson, painter, W. A. Moyer, boilerhouse

Third row—Walker Morris, gauger; W. R. Marstellar, painter; Wm. Heilscher, welder, Arch Petitt, machinist; Victor Gregory, painter; S. Sijernsen, painter; F. W. Fiske, stillman

Fourth row—A. R. Cammack, painter; S. Sedivey, stillman; Jack Lacy, painter; Ellis Goe, painter; Bennie Salaach, painter; R. L. Kimmins

Fifth row—G. Wolski, painter; P. J. Jones, stillman; J. P. Saide, painter; Thos. Hall, painter; Burt Jacobks, librarian
Sixth row—Fred Humphrey, painter; Carl Quinn, timekeeper; H. M. Hodge, timekeeper

Treating

Reduction of sulfur in gasoline to prescribed limits is still a chief problem in light oil treating.

The increasing use of vapor phase cracking has brought the problem of gum removal into the refiner's foreground. These developments and progress in methods of decolorizing lube oils, and removal of wax, are being discussed in their various phases in National Petroleum News.

Here are 34 articles for your file reference that have been published on treating in the past two years' issues of this publication:

1929

Modern refining—science and practice Dec. 18, p. 69; Dec. 4, p. 85; Nov. 20, p. 69
Solving corrosion, gum, anti-knock, volatility problems Dec. 11, p. 34
Neutralization best method of combating corrosion Dec. 11, p. 36
Power costs, solvents, in low pour point oils Dec. 11, p. 79
Free sulfur greatest corrosive agent in cracking plants Dec. 11, p. 89
Gum in gasoline not indicated by color Dec. 11, p. 93
Inhibitors stabilize gasoline color and knock rating Dec. 4, p. 40
Methods to combat corrosion in pressure stills Dec. 4, p. 49
Degasification, etc., of pressure distillate Oct. 30, p. 60
Skimming, cracking, lube making from Ranger paraffin crude June 26, p. 80; June 19, p. 78; June 5, p. 73
De-salting, distillation, light cracking West Texas crude May 29, p. 65
Time a factor in sweetening sour gasoline May 22, p. 78
Treating sulfur out of West Texas gasoline May 15, p. 75
Sulfur compounds and corrosion problems Feb. 27, p. 72
How wash naphtha? With soap and water Feb. 20, p. 61
Hydrogen sulfide gas hazards in West Texas Feb. 20, p. 45
Muskegon gasoline high in sulfur Feb. 6, p. 65

1928

Anglo-Persian bars sulfuric acid as treating agent Dec. 19, p. 64
Many factors affect safe limit for gum in gasoline Dec. 19, p. 75
Sulfur in gasoline Dec. 12, p. 31
Sulfur dioxide process in treating lubes Nov. 14, p. 63
Corrosion in refineries; suggestions Oct. 3, p. 22
Leamon continuous treating process for cracked gasoline Aug. 22, p. 65
Dissolved sulfur gives uniform results July 18, p. 56
Method to determine hydrogen sulfide in distillates July 18, p. 63
Careful fractionation can cut cost of treating cracked gasoline Apr. 25, p. 48
Technical control of refinery processes March 14, p. 144; March 7, p. 51; Feb. 29, p. 76
Wax-free oil pours below zero Feb. 8, p. 22
Treats 8000 barrels gasoline in vapor phase to ton of clay Feb. 1, p. 23
Chemist gives inside stuff on treating today's gasoline Jan. 4, p. 83

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National Petroleum News

Main Office: 1213 West Third St

Cleveland, Ohio

Magnolia Petroleum Co. At times, it has broadcast through other stations such as WFAA at Dallas and KPRC at Houston, the hook-up being described under such conditions as the "Magnolene Chain."

Station KFDM has now completed a handsome new radio building and a large uptown studio has been installed, according to J. D. Hensley, radio supervisor. A two-story brick veneer structure, to be known as the Radio building, was completed in advance of KFDM's fifth anniversary celebration.

The new house will be used primarily for the band, which will have the entire upper floor for a studio. The lower floor will house new equipment, installed at a cost of more than $21,000. Equipment was purchased from the Western Electric Co., according to Mr. Hensley.

Old equipment will be kept at the location above the main office building at the refinery, where it probably will be used occasionally for routine work and in emergencies.

An increase of power was recently granted KFDM by the Federal Radio Commission from 500 to 1000 watts, broadening the scope of the station's broadcasting range.

New Patents

Prepared by R. E. Burnham, patent and trademark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

November 5, 1929

REFINING

Dephlegmator. Walter M. Cross, Kansas City, Mo., assignor to Clayton Oil & Refining Co., Dallas, Tex. Filed Nov. 14, 1923. No. 1,734,615.

Cracking stills. George L. Prichard and Herbert Henderson, Port Arthur, Tex., assignors to Gulf Refining Co., Pittsburgh, Pa. Filed March 4, 1922. No. 1,734,827.

Apparatus for refining crude petroleum. Frederick G. Ring, Winchester, Mass., and Percy G. Paris, Bethlehem, Pa.; said Paris assignor to Bethlehem Steel Co. Filed Aug. 27, 1924. No. 1,734,880.

PRODUCTION

Packer for wells. Joseph H. McEvoy, Houston, Tex. Filed Jan. 11, 1927. No. 1,734,040.

Slick socket. Albert H. Neilson, H. Neilson, Tulsa, Okla. Filed March 19, 1928. No. 1,734,338.

Overshot. Winfield S. Jones, Brea, and Harold U. Baker, Los Angeles, Cal. Filed May 15, 1925. No. 1,734,468.

Drill-bit. William O. Journeay, Houston, Tex. Filed Sept. 16, 1925. No. 1,734,469.

Long-stroke pumping mechanism. Daniel L. Shull, Bakersfield, Calif. Filed Dec. 14, 1927. No. 1,734,649.

Means for cementing oil, gas, and water wells. Haskell M. Greene, Taft, Calif. Filed Sept. 5, 1923. No. 1,734,670.

Hydraulic-rotary-drill bit. Charles L. Harralson, Casper, Wyo., assignor of 41.5 per cent to Leidecker Tool Co., Marietta, Ohio.

Fishing-tool. John H. Herman, New Castle, Pa. Filed Oct. 2, 1925. No. 1,734,807.

Swing. Cloise H. Baldwin, Fort Worth, Tex., assignor to Texas Steel Co., same place. Filed Jan. 18, 1927. No. 1,734,845.

MISCELLANEOUS

Pump for the delivery of liquids in predetermined amount. Torcuato Di Tella, Buenos Aires, Argentina. Filed Oct. 18, 1926. No. 1,734,421.

November 12, 1929

REFINING

Apparatus for clarifying and decolorizing petroleum oil. John C. Black, Los Angeles, Cal., assignor to Contact Filtration Co., San Francisco., Cal. Filed April 5, 1920. No. 1,734,959.

Art of treating hydrocarbons. John F. Johnson, Westfield, N. J., assignor to Standard Oil Development Co. Filed Dec. 12, 1924. No. 1,735,462.

Automatic regulation of reflux in fractionating-towers. Henry M. Noel, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Sept. 21, 1925. No. 1,735,470.

Process for the treatment of hydrocarbons. Philip L. Young, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Aug. 4, 1928. No. 1,735,486.

Rectifying process. Malcolm P. Youker, Bartlesville, Okla. Filed July 15, 1924. No. 1,735,558.

PRODUCTION

Process and material for treating oil wells to enhance their productivity. Albert H. Ackerman, Chicago, Ill., assignor to Catalytic Chemical Co., same place. Filed Dec. 31, 1926. No. 1,734,990.

Process and means for extracting petroleum. John L. Rich, Ottawa, Kans. Filed Oct. 5, 1926. No. 1,735,012.

Pumping apparatus. Elmer A. Watts, Springfield, Ohio. Filed Jan. 17, 1927. No. 1,735,025.

Diamond core drill. Fred Powers, Norman, Okla., and John W. Tolland, St. Louis, Mo.; said Tolland assignor to C. F. Camp Co., Tulsa, Okla. Filed April 5, 1926. No. 1,735,091.

Oil-well-sealing device. Emmet H. McMahan, Ventura, Cal. Filed June 19, 1924. No. 1,735,330.

Flooding method for recovering oil. Lester C. Uren, Berkeley, Cal., assignor to Standard Oil Development Co. Filed Sept. 17, 1927.

Method of repressuring oil sands. James O. Lewis, Tulsa, Okla., assignor to Dunn & Lewis, same place. Filed Nov. 22, 1926. No. 1,735,646.

MISCELLANEEOUS

Dispensing device. Elmer C. Hake, Covington, Ky., and Sely S. Seligman, Cincinnati, Ohio; said Hake assignor to said Seligman. Filed April 4, 1928. No. 1,734,968.

Process and apparatus for treating petrogen-containing substances. James B. Jenson, Salt Lake City, Utah. Filed July 22, 1921. No. 1,734,970.

Process of blending oil. Thomas Cox, Oakland, and Mark L. Requa, Piedmont, Cal., and Alexander S. Knowles, New York, N. Y.; said Cox and said Knowles assignors to said Requa. Filed Aug. 10, 1925. No. 1,735,421.

Art of reclaiming lubricating oils. Oliver J. Nelson, St. Louis, Mo., assignor to Bryte-Nelson Refining Co., same place. Filed Jan. 8, 1923. No. 1,735,440.

Method and means for sealing flotation roofs. Charles H. Haupt, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Nov. 10, 1926. No. 1,735,461.

Loading tank-cars and the like. Harry C. Wiess, Houston, Tex., assignor to Humble Oil & Refining Co., same placed. Filed May 7, 1925. No. 1,735,484.

System for protecting petroleum-tank farms against lightning and electrical sparks. West Dodd, Des Moines, Iowa. Filed May 31, 1927. No. 1,735,530.

Process for reclaiming lubricating oil. William C. Rath, New York, N. Y. Filed March 20, 1929. No. 1,735,546.

Manufacture of ceresine-like wax. Gerald L. Wendt and Clifford Banta, Chicago, Ill., assignors to Standard Oil Co. of Indiana. Filed March 2, 1923. No. 1,735,555.

November 19, 1929

REFINING

Art of refining hydrocarbons—Frank A. Apgar, East Chicago, Ind., assignor to Sinclair Refining Co., New York, N. Y. Filed March 10, 1923. No. 1,735,988.

System of treating hydrocarbon distillates and apparatus used in connection therewith—Charles W. Stratford, San Francisco, Cal. Filed Nov. 26, 1926. No. 1,736,018.

Art of refining hydrocarbons—Thomas de C. Tifft, Chicago, Ill., and Arnold C. Vobach, Whiting, Ind., assignors to Sinclair Refining Co., New York, N. Y. Filed Feb. 10, 1928. No. 1,736,022.

Art of refining hydrocarbons—Arnold C. Vobach, Whiting, Ind., assignor to Sinclair Refining Co., New York, N. Y. Filed Feb. 29, 1928. No. 1,736,234.

Oil-still—Charles L. Parmelee, Orange, N. J. Filed July 19, 1923. No. 1,736,325.

ADVERTISING PAGES REMOVED

Changes in Oiling, Greasing and Fueling Systems of New Auto Models

By John Younger

HERE is a means by which even minor changes in lubrication and fuel systems of new models of automobiles may be quickly made known to the men in your lubrication stations.

John Younger, head of the industrial engineering department of Ohio State University, and editor of Automotive Abstracts, will tell NATIONAL PETROLEUM NEWS *readers what the changes are in both engine and chassis lubrication, and in fuel systems, in new models, as they are brought out.*

His articles appear irregularly closely following the announcement of new models by the automobile companies.

AN ADVANCE step in engineering practice incorporated in the new car is that of radiator-cooled oil. Radiator oil cooling systems represent the newest mechanical departures and refinements in some of Europe's most costly motor cars.

In the new straight Hupp a section of the left side of the radiator core is partitioned off exclusively to reduce the temperature of the engine lubricant. Inasmuch as the temperatures of engine, engine lubricant and water are interdependent, the devotion of this radiator space to cooling of the engine's oil supply reduces the necessity for large and bulky water radiator space. Hence the radiator of the new Hupmobile eight is of trim appearance lending itself completely to the modern styling of this new car.

Two gear driven oil pumps are located one above the other in the engine sump, and completely submerged in oil. One—the force-feed pump inlet is placed ¾ of an inch below the inlet of the cooling pump. Thus the latter picks up the hotter top surface oil in the crankcase and forces it to the top of the oil section of the radiator. The temperature of the lubricant is reduced in its journey downward through the radiator, and then returned to the crankcase. In this manner the prevailing temperature of the oil in the crankcase is reduced from 35 to 40 degrees Fahrenheit.

Engineers point out that a chief deterrent factor in building large, high-powered engines with high speed capacities has been the rapid deterioration of all lubricating properties because of high operating temperatures. With radiator cooled oil, the way is now opened for more powerful engine boasting a heretofore unheard of capacity for sustained high speeds.

Oil deterioration at high temperatures, engineers declare, is due to no fault of the lubricant. Rather it is that manufacturers have not previously introduced oil cooling methods which, while more costly in manufacture, assure the owner of greater performance and increased long life of his motor car.

As the oil temperature rises the consistency of the lubricant rapidly thins out. At about 210 degrees Fahrenheit, the danger zone begins. From this point on the oil thins so fast that it may no longer provide a lubricating film for bearing surfaces but, instead, permit metal to metal contact. This results in burned out bearings, noisy and costly operation and resultant short engine life.

With the new Hupmobile device the engine oil temperature never gets higher than 197 degrees Fahrenheit —the most advantageous operating temperature. The oil cooling system is just as advantageous in winter operation. Automatically controlled radiator shutters protect both the oil and water supply. In addition, a pressure release valve prevents circulation of the oil to the radiator until the proper temperature has been reached. Through this valve the oil from the pump is spilled back into the crankcase at low temperature.

1930 Franklin Car

The great speed and power of the new Franklin engine necessarily requires a highly perfected lubricating system. A spiral gear pump has been developed which delivers approximately twice as much oil to each bearing point as was delivered in any previous Franklin engine. Oil is pumped into a header from which it is distributed through individual leads to the various bearing points of the motor. Before entering the header, oil passes through a relief valve which prevents pressure exceeding 50 pounds. This oiling system follows airplane engine practice.

Oakland Lubrication in the 1930 Model Eight

The highly effective full pressure oiling system which Oakland has used for several years has been adapted for the new eight engine. Oil capacity is seven quarts. A gear type oil pump located below the oil level in the oil pan supplies lubricant under a pressure of 25 to 30 pounds per square inch to the crank shaft main bearings, connecting rod, lower end bearings, camshaft bearings, valve rocker arm bearings, the two point timing chain and through rifle drilled connecting rods to the piston pin bearings. Oil discharging from the connecting rod bearings provides lubrication for pistons and cylinder walls, cams and the rocker arm rollers. Valve stems are exposed to the crankcase oil mist.

The oil pump is driven off an extension of the vertical distributor shaft which in turn is actuated by gearing on the rear end of the camshaft. These gears are bathed in a constant stream of oil from the valve rocker shaft.

Oil pressure may be controlled by a self-cleaning oil regulator located in the center of the crankcase and adjustable from outside the engine. An important detail which prevents cold oil from piling up on the cleaning screen and hampering circulation when the engine is started during winter weather, is found in an arrangement whereby the overflow from the oil pressure regulator reaches the sump immediately without having to work through the screen.

This screen, incidentally, provides 92 square inches of cleaning area. Baffles in the oil pan prevent the oil from surging.

Another novel feature of the lubrication system is an arrangement which prevents the breather action in the crankcase from forcing oil out past the oil seal of the rear crankshaft bearing. A small tube with its lower end below the oil level drains oil from the crankshaft rear bearing seal and returns it to the pan.

An important safety feature is provided by an arrangement which automatically stops the engine in the remote event that the oil pump should fail to function. The shearing of a small pin would stop the distributor

and halt the engine, preventing possible damage from lack of oil.

Engine oil is replenished through the forward air inlet of the crankcase ventilation system which is of the combination pressure-suction type. Fumes from the crankcase are delivered under the chassis. The ventilation system removes fumes and water vapor, preventing condensation and consequent dilution of the oil. The chassis carries fittings for lubrication by high-pressure oil gun.

Pontiac Big Six

Developing 60 horsepower at 3000 r.p.m. from an engine of 200 cubic inches displacement, the new Pontiac provides an ample reserve of power. Connecting rod bearings, main bearings, and timing chain are lubricated by regulated, constant flow pressure oil feed.

Regulation is by means of a redesigned adjustable pressure relief valve. The oil pump, which with the distributor is driven by a vertical shaft off the camshaft circulates approximately 175 gallons of oil an hour at 25 m.p.h.

Oil is filtered through 134 square inches of fine mesh screen placed completely across the oil pan above the oil level. Oil overflow from the pressure relief valve circulates through the pump without passing through the screen.

In cold weather this feature presents an important advantage in that the cold, slow flowing oil does not pile up on the screen but is returned immediately to the pump for recirculation.

The possibility of burned out bearings and scored pistons through insufficient lubrication is eliminated by a gear drive safety feature through which the ignition would be disconnected and the car immediately stopped in the remote event the oil pump should fail. Oil filter and oil level gauge are located on this left side of the engine. Oil capacity is six quarts.

Gasoline economy is accomplished without sacrifice of other features through the use of a large vertical type 1¼-inch carburetor, in which is incorporated an "economizer" that mixes the lean gasoline charge of normal driving speeds and an "accelerator pump" that functions only when quick pick-up is desired.

In addition to the gasoline pump, gasoline filter and air purifier on the carburetor, the engine is equipped with a combination pressure-suction crankcase ventilator which removes water vapor from the crankcase and delivers the fumes underneath the car. The ventilation system preserves the quality of the oil by preventing dilution from condensed vapors.

Another vital factor in the performance of the new Pontiac is its thermostatically controlled cooling system and redesigned Cross-Flow radiator. The thermostat is built into the cylinder head water outlet manifold. The water capacity is 13 quarts and the frontal area of the core is 393 square inches.

New Willys 1930 Six

The fan and water pump is provided with a ball bearing back of the fan, this bearing being carried in the front end of the pump case, having back of it an annular space which is filled with oil from an oiler carried in the casting.

To prevent oil from leaking out and to prevent water from entering the bearing, a felt washer with steel retaining plates forms the other end of the oil retaining space so that the oil lubricates the bearing as well as keeping the felt free from drying up.

Because of the high speed of this car, there is necessarily required a highly developed lubricating system which is entirely different from any type used heretofore on Willys-Overland low priced cars. The oil pump is mounted outside the case with the pump body extending through the case angularly and the shaft forming the pump shaft proper is driven by a gear cut directly in the cam shaft.

With the exception of the tube which passes through the oil pump down to the suction bell in the base of the pan, all the oil connections which go from main bearing to main bearing, to crank and to cam shaft bushings are all drilled in the solid casting. This gives an assurance that there is no possibility of broken or leaking tubes which will lower the oil pressure and interefere with the lubricating system.

The crankshaft itself is drilled so that oil under pressure is carried to every main bearing, every connecting rod big end bearing, every cam shaft bearing and an adequate amount is thrown into the front compartment to lubricate the chain.

Each connecting rod is provided with squirt holes in the big end to throw a well directed stream of oil on to the thrust side of the bore and thus adequately lubricate piston and bore. The rear main bearing is provided with a return groove and an oil throwing helix which carry the return oil into the bearing cap, thence into tube which carries it to the lowest part of the pan.

Another feature of the lubricating system is the employment of crankcase ventilation so that any blow-by and resulting pressure in the crankshaft will not result in oil fumes or wastage. The ventilator is at the rear of the engine and ventilates from the valve tappet gallery. The pipe into which this ventilator feeds passes through the lower part of the pan so that the movement of the car facilitates the flow of air through the crankcase without in any way carrying oil through that air and so increasing oil consumption.

Peerless Models

Cushioned in thick rubber from four points of suspension, the custom straight-eight-cylinder "I" head Peerless-designed motor is unusually smooth and powerful. Having a bore of 3⅜ inches and a stroke of 4½ inches, this motor develops 120 horsepower.

Oil is forced into the main bearings, connecting rods and the camshaft bearings, by means of a gear-type oil pump. The oil reservoir capacity is 10 quarts. Change of oil is recommended every 2000 miles in summer and every 1000 miles in winter.

A gasoline pump operated automatically, provides positive flow of gasoline at all speeds. Besides being economical, the steady flow of gasoline prevents the engine from bucking at low speeds and assures an even, steady operation.

Oil Trademarks For Copyright

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Barrister Building, Washington, D. C. trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

"POCO PEP." Ser. No. 283,298. The Pure Oil Company, Chicago, Ill. For hydrocarbon Motor Fuel Oils and lubricating oils and greases.

"DECCO." Ser. No. 287,124. The Eagle Liquid Gas & Oils Company, Inc., Cincinnati, Ohio. For lubricating oils and greases, motor fuel oils, and kerosene.

"STANOVO," with fanciful picture of an eagle-airplane. Ser. No. 287,503. Stanavo Specification Board, New York, N. Y. For lubricating oils and greases and motor fuel oils.

"PURO-PEP." Ser. No. 289,203. The Pure Oil Company, Chicago, Illinois. For hydrocarbon Motor fuels, lubricating oils and lubricating greases.

"PUROL-PEP." Ser. No. 290,204. The Pure Oil Company, Chicago, Illinois. For hydrocarbon motor fuels, lubricating oils, and lubricating greases.

"LIQUID POWER." Ser. No. 290,031. The Rajah Oil & Refining Company, Youngstown, Ohio. For gasoline.

OMAR
WINTER GASOLINE

NO MATTER HOW COLD THE *Weather*
YOU CAN'T COOL THE MOTORIST'S
***Enthusiasm* FOR A *Good* WINTER FUEL**

OMAR
REFINING COMPANY

Roberts Building, Tulsa, Okla. . . . *Northwest Office:*—Baker Bldg., Minneapolis

Merchandising Talks

About Advertising, Tire Gauges, Rushing the Radiator, Making More Money With Less Service, and Careless Courtesy

By Roger B. Stafford
N. P. N. STAFF WRITER

ADVERTISING must be interesting; it must have news value, W. T. Holliday, aggressive president of the Standard Oil Co. of Ohio, told members of the Cleveland Advertising Club recently.

When the Standard of Ohio was being rejuvenated in 1928 the best thing the Standard had to talk about was its new Sohio gasoline, an Ethylized premium product. So the advertising, Mr. Holliday said, was built around the premium gasoline and publicity for other products was tied to the premium product. Sales of the premium gasoline increased as did sales of all products.

Mr. Holliday spoke in the presence of representatives of most of his competitors so he did not say how much the sales increased. It is understood, however, that sales of the premium gasoline now constitute more than half the company's gasoline gallonage, which has grown much faster than the increase in consumption in Ohio.

The Standard's advertising told not only the good points of its new gasoline but also told how it was made with a new cracking process, which at the time was described by those interested in it as the "last word" in refining art.

The public may not have been mechanically minded, but it must have been intrigued by the pictures which lifted the veil which had hitherto hidden motor fuel manufacture, with its scores of interesting details, from public attention.

* * *

It might be well for oil companies frequently to check the accuracy of their tire gauges. This writer recently found a seven-pound difference between his own gauge and one that was being used by a service station attendant. Whose gauge was right? Numerous checks indicated that the writer's gauge was right. It had had better treatment than the station's gauge. The station's gauge allowed the tires to be underinflated by seven pounds. That meant that the car owner would get perhaps several thousand miles less wear from his tires. The tire manufacturer would be blamed for making an inferior product.

Regardless of what we may think of the tire manufacturers it would be wrong to let our own carelessness in not keeping our equipment in first class condition cause a car owner to think he had been "gyped" by the tire manufacturer or his dealer.

* * *

And while we are in a scolding mood, it might be well these days to caution your service station men about rushing up to a car's radiator and overflowing it with water.

If the radiator contains an alcohol solution, the overflow may damage the finish of the car. If the cooling system contains glycerin or ethylene glycol flooding the system means dilution of the anti-freeze solution with possible freezing of the radiator with the next severe fall in temperature.

The solution in a radiator in winter should never rise above three or four inches below the overflow pipe.

Some motorists resent rushing up to a car with a water bucket or hose as is customary in many stations where the idea prevails that a great amount of free service must be given to please the customers.

Such service may go well with some people and it is difficult to distinguish those that like free attention and those that don't.

The cooling systems of new cars are pretty efficient and addition of water is not necessary every time gasoline is needed. It might be well at stations where it has been the practice to pour in water as soon as a car stops at the gasoline pump to inquire of the driver whether you may check the radiator.

"It makes me mad to have some station man grab at my radiator cap as soon as I get into the station," a man whose work is the studying and developing of merchandising service for automobiles, told this writer recently. "My car doesn't need water once a month and the engine thermometer tells me when water is necessary. Also, I don't like to have them put the cap on so the emblem is crooked."

THE same may be said of motor oil. Some people resent having their car hoods lifted as soon as the car stops. It seems it would be far better to inquire of the driver whether we wants the oil checked.

"May I check your oil and water?" implies that your station man is interested in the welfare of his customer's car and will make as many friends and probably save a great deal of your men's time by asking the question.

We believe the average motorist disfavors excessive free service just as much as we dislike being bombarded with suggestions by the barber or being pounced upon by the bootblack in a hotel washroom and given a thorough whisking about 10 minutes after we had accorded the Pullman porter that privilege after his polite request.

* * *

THEN speaking of free service, how much does it pay?

The owner of one of the most talked of one-stop service stations in the United States said, when he opened this station, which was his second, three or four men mobbed each car that drove in for gasoline.

That practice has been stopped. Service is supplied promptly but by fewer—and perhaps better—men. And the sales per vehicle today of this station are more than double the sales per vehicle when the excessive free service was supplied without request. The men are taught today to think more about selling than about dissipating their energies, filling radiators, checking oil in crankcase and water in battery, checking tire pressures, washing and wiping windshields and windows, dusting off the body, and so on through the list of extras that have developed in the retailing of gasoline and motor oils.

Of course we don't say. "Don't do these things," but we do say, "Do these things only after you have asked the car driver's permission." You'll be surprised at the volume of labor you will cease giving away.

* * *

Courtesy is a great thing. Service with a smile has returned dividends but one should never sacrifice carefulness to courtesy. Here is our point:

We know a woman driver who remarked about how courteous a middle aged station salesman was when she patronized his station recently. He was pleasant, thanked her for her patronage and asked that she pat-

ADVERTISING PAGES REMOVED

A sample of recent Standard Oil Co. of Ohio outdoor advertising illustrating the point made by W. T. Holliday in his Cleveland Advertising Club address that an advertiser should talk about his currently most interesting product and let advertising of other products tie in with that. Here the Standard talks of its low cold test motor oil. This billboard advertising is an innovation in outdoor displays, advertising men say. It uses two poster spaces for one advertisement. The poster is paper and was run for 30 days. To get the same amount of space on a painted board would have required a minimum time of three months. These double boards cost only a little more than one-sixth the cost of a painted board, and the copy may be changed once a month. The Standard used 454 of these boards in Ohio in November. Prices varied according to locations. The posters were prepared by the H. K. McCann Co.'s Cleveland office and have been designated as 48-sheet duplex posters

ronize the station whenever she was driving in that vicinity again.

That was well, he was very polite without stepping into the border line of freshness. But in endeavoring to get a new customer he had forgotten to put on the gasoline tank cap, her husband discovered when she got home.

The wife remembers the station as one where she received courteous attention but the husband remembers it as the one which cost him 50 cents for a tank cap. It happens that in that particular family most of the gasoline is bought by the husband. Write your own moral.

* * *

It might be well if you are handling small automobile supplies to sell the car owners on the advantage of carrying an extra gas tank cap in the car. This writer knows of several owners who are never without a spare tank cap because they have been victims of careless station attendants.

Many of the caps will fit several makes of cars. By inquiring whether the car owners wish a tank cap of such and such a feature, the station men may move much faster the goods which were stocked probably only for emergency calls.

* * *

How good a job have you been doing selling winter grade gear compound? If you feature car lubrication and are not prepared to cleanse transmission, differential and steering gear housings thoroughly before adding a winter grade of lubricant, you probably are not making much of your opportunity.

We have just heard of a car owner who had been visiting gasoline stations, some of which featured car lubrication, two and three times a week. Not once in perhaps 20 calls since early fall had a suggestion been made to him about getting a lighter grade of gear compound. He had been asked about having the compound checked but never once was he asked to have the cases drained and flushed and a lighter winter grade of compound added.

Finally he noted a hum in both transmission and differential when he started the car on cold mornings. The steering was harder than that of a 10-ton truck until the engine was hot enough to thin the compound in the steering gear.

He knew the transmission and differential needed cleaning but not one oil station in his city seemed prepared (at least they didn't tell anyone they were) to thoroughly clean those housings and gears and give him the kind of lubrication he believed, after reading his instruction book, his car should have. He finally went to an automobile dealer who had a pride in the kind of work his service station did and that station gave the car a thorough cleaning even to taking down the differential and scraping out the grease with a knife when kerosene would not readily dissolve it.

It developed that this grease was not the kind that should have been used in his car, that the hum in the differential was the result of imperfect lubrication. The car owner has a repair bill on his hands. What is his opinion of the grease that was put into his car? What is his opinion of the oil trade that wouldn't lubricate his car the way the manufacturer of the car recommended?

This car owner paid $4.70 to get the transmission and differential housings of his car cleaned after it was too late. One St. Louis lube station operator gets $1 per housing for cleaning. There seems to be an opportunity that many lube station operators are overlooking. They are making friends and dollars keeping their customers' cars out of repair shops.

British Interested in Code

NEW YORK, Jan. 3.—British oil companies are interested in the code of ethics, according to the weekly bulletin of the American Petroleum Institute. W. H. Howe, president of the National Lubricating Oil & Grease Foundation, at the organization's dinner in London advised a close study of the American code. Free oil equipment is a vexing problem, he said.

PITTSBURGH—The name of the National Fire Proofing Co. here has been changed to the National Fire Proofing Corp. All assets, liabilities, and business of the former will be sold to the new corporation when it becomes effective Jan. 1.

The company makes glazed ware, tex-tile and Vitritile and expects to market for additional specialties during the coming year. S. F. Heckert is president.

Roster of Oil Associations

National Petroleum News

American Association of Petroleum Geologists, Business Manager, J. P. D. Hull, Box 1852, Tulsa, Okla.

American Association of Service Stations, Engineers Bank Bldg., Cleveland, O. William E. MacEwen, Managing Director.

American Chemical Society, Petroleum Division, Mellon Institute, Pittsburgh, Pa. J. B. Hill, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia, Pa.

American Gas Association, Graybar Bldg., 420 Lexington Ave., New York City. Secretary Alexander Forward.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, 29 West 39th St., New York. Chairman, Petroleum Section, A. W. Ambrose.

American Oil Burner Association, 342 Madison Ave., New York City. Executive Secretary, Trell Yocum.

American Oil Chemist Society, 705 Tchoupitoulas St., New Orleans, La. Secretary-Treasurer, J. C. Helm.

American Petroleum Institute, 250 Park Ave., New York City. Executive Vice President, William R. Boyd, Jr.

American Society for Testing Materials, 1315 Spruce St., Philadelphia, Pa. Secretary-Treasurer, C. L. Warwick.

Committee D-2 (Petroleum), Dr. R. P. Anderson, American Petroleum Institute, 250 Park Ave., New York, N. Y., Secretary.

Arkansas Petroleum Club, Secretary, James P. Lavery, Petroleum Supply Co., El Dorado, Ark.

Arkansas-Tennessee Oil Marketers Association. Secretary, R. E. McKellar, care Diamond Oil Co., Memphis, Tenn.

Association of Producers of Petroleum in Mexico, 17 Battery Place, New York. Director, Guy Stevens.

Association of Producers of Petroleum in Venezuela, 17 Battery Place, New York City. Director, Guy Stevens.

California Natural Gasoline Association. Secretary, H. W. Parmelee, 221 Higgins Bldg., Los Angeles, Calif.

California Oil & Gas Association, 410 Chamber of Commerce Bldg., Los Angeles, Calif. Edwin Higgins, Managing Director.

Chamber of Mines & Oils of California. (Changed to California Oil & Gas Association. See above).

Cincinnati Oil Club. Secretary, F. H. Dinkelmann, Eureka Oil Co., Cincinnati, O.

Colorado Oil Dealers Association, The, 518 Denham Bldg., Denver, Col. Secretary, Charles L. Yancey.

Eastern Kentucky Oil Producers Association, Ashland, Ky. Secretary, David Browning.

Fire and Safety Marshals of the National Petroleum Association. President, James H. Herbert, Conewango Refining Co., Warren, Pa.

Georgia-Alabama Independent Petroleum Marketers Association. Secretary-Treasurer, W. L. Moore, Wofford Oil Co. of Georgia. Atlanta, Ga.

Georgia Independent Oil Marketers Association. Secretary-Treasurer, J. K. Ezell, American Oil Pump & Tank Co., P. O. Box 982, Atlanta, Ga.

Greater Chicago Oil Men's Club. Secretary, Mel Keim, Apex Motor Fuel Co., 4555 W. 26th St., Chicago, Ill.

Gulf Coast Independent Oil Producers Association, 403 Goggan Bldg., Houston, Tex. Secretary, T. L. Smith, Jr.

Illinois Petroleum Marketers Association. Secretary, G. A. Primm, Chamber of Commerce Bldg., Springfield, Ill.

Independent Oil Association of Oklahoma, 216 S. Morton Ave., Okmulgee, Okla. Secretary, C. I. O'Neill.

Independent Oil Men of America, Engineering Bldg., 205 W. Wacker Drive, Chicago, Ill. C. Y. Hinchey, Executive Manager.

Independent Oil Men's Association of Massachusetts. Secretary, F. E. Bergfors, care Quincy Oil Co., Quincy Adams, Mass.

Independent Oil Men's Association of New England. Secretary, I. H. Farrar, Berkshire Oil Co., Worcester, Mass.

Independent Oil Producers Agency, Los Angeles, Calif. W. B. Robb, Secretary-Treasurer.

Independent Petroleum Association of America. Headquarters to be at Tulsa—secretary to be chosen. Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore, Okla., head.

International Petroleum Exposition and Congress, Tulsa, Okla. Secretary, William Holden.

Independent Petroleum Marketers of Middle Atlantic States. (Changed to Pennsylvania Independent Oil Men's Assoc.)

Indiana Petroleum Association, 1014 De Quincy St., Indianapolis, Ind. Executive Secretary, Max L. Wickersham.

Iowa Petroleum Association, 207 Securities Bldg., Des Moines, Ia. Secretary, M. L. Long.

Kansas Oil Men's Association, 423 First National Bank Bldg., Wichita, Kan. Secretary, J. A. Motter.

Kentucky Oil Men's Association, Inc., 610 Trust Co. Bldg., Lexington, Ky. Secretary, Thomas S. Scott.

Kentucky Petroleum Marketers Association, 1301 E. Main St., Louisville, Ky. Secretary L. J. Connolly.

Maine Independent Oil Dealers Association. President, Theodore E. Emery, president, Kennebec Oil Co., Augusta, Me.

Michigan Oil Men's Association, 207 West Franklin St., Jackson, Mich. H. H. Ragle, Executive Director; Walter A. Garvey, Field Secretary.

Michigan Oil & Gas Association, 207 W. Western Ave., Muskegon, Mich. President, E. J. Bouwsma, Citizens Petroleum Co., Muskegon, Mich.

Mid-Continent Oil & Gas Association, 308 Tulsa Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Kansas-Oklahoma Division, 308 Tulsa Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Louisiana-Arkansas Division, American National Bank Bldg., Shreveport, La. Secretary, Joseph B. Elam.

Texas Division, Kirby Bldg., Dallas, Texas. Secretary, J. P. Laney.

Minnesota Petroleum Association. (Changed to Northwest Petroleum Association, which see.)

Mississippi Oil Men's Association. Secretary, George B. Power, 501 Capital National Bank Bldg., Jackson, Miss.

Missouri Oil Men's Association, 370 Board of Trade Bldg., Kansas City, Mo. Secretary, George S. Allee.

National Association of Independent Oil Producers, 414-419 Ritz Bldg., Tulsa, Okla. President, William H. Gray.

National Credit Men's Association, Petroleum Refiners Division, 936 First National Bank Bldg., 33 S. Clark St., Chicago, Ill. Secretary-Manager, R. A. Colliton, Commercial Bldg., Tulsa, Okla.

National Gasoline Dealers Association, Inc., 280 Madison Ave., New York City. Secretary, Thomas P. McKee, Jr.

National Petroleum Association, Munsey Bldg., Washington, D. C. Washington Counsel, Fayette B. Dow.

Natural Gas Association of America, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, Guy F. Batchelor.

Natural Gas & Petroleum Association of Canada, Chatham, Ont., Canada. Secretary, S. A. Morse.

Natural Gasoline Association of America, 305 Tulsa Bldg., Tulsa, Okla. Secretary, Ray E. Miller.

Nebraska Independent Oil Men's Association, 816-817 Terminal Bldg., Lincoln, Neb. Secretary, C. M. Sutherland.

New Jersey Oil Trade Association, 196 Halsey St., Newark, N. J. Secretary, J. H. Chambers.

New York State Oil Producers Association, Wellsville, N. Y. President, Lewis H. Thornton.

New York State Petroleum Marketers Association, 1201 So. Salina St., Syracuse, N. Y. Secretary, Benjamin A. Javitz.

North Carolina Independent Oil Jobbers Association, Greensboro, N. C. Secretary-Treasurer, L. H. Martin, L. H. Martin, Inc., Greensboro, N. C.

North Dakota Petroleum Association. (Changed to Northwest Petroleum Association, which see.)

Northwest Independent Oil Association. Secretary, C. H. Brown, care Arro Oil & Refining Co., Lewiston, Mont.

Northwestern Pennsylvania Oil Producers Association, 78 Main St., Bradford, Pa. President, A. Edward Booth.

Northwest Petroleum Association, 638 Builders Exchange, Minneapolis, Minn. Secretary, Paul E. Hadlick.

Ohio Gas & Oil Men's Association, 811 First National Bank Bldg., Columbus, O. Secretary, William H. Thompson.

Ohio Petroleum Marketers Association, 508 Ohio State Savings Bldg., Third and Gay Sts., Columbus, O. Executive Secretary, W. A. Milne.

Oil Heating Institute, 342 Madison Ave., New York, N. Y. Secretary, Trell Yocum.

Oil Trade Association of Baltimore, Md. Secretary, Arthur B. Gardner, 309 East Falls Ave., Baltimore, Md.

Oil Trade Association of Philadelphia, Inc. Secretary, Howard M. Rogers,123 Arch St., Philadelphia, Pa.

Oil Trades Association of New York City, Inc., 35 So. William St., New York City. Secretary, Joseph C. Smith.

Oklahoma Oil Jobbers Association, 1203-4 First National Bank Bldg., Oklahoma City, Okla. Vinnie Chaney, Acting Secretary.

Oklahoma Oil Marketers, Inc., P. O. Box 755, Enid, Okla. Secretary, W. W. Blackburne.

Osage Oil & Gas Lessees Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Pennsylvania Grade Crude Oil Association, Levi Bldg., Oil City, Pa. Secretary, R. J. Alexander.

Pennsylvania Oil Men's Association, 601 Keystone Bldg., Harrisburg, Pa. Secretary, R. A. Overholser.

Pennsylvania Retail Gasoline Dealers' Association, Altoona, Pa. Secretary, A. W. Martin.

Petroleum Club of Central New York. Secretary, George R. Casey, Crown Oil Co., Syracuse, N. Y.

Petroleum Industry Electrical Association. Secretary, H. E. Browne, Prairie Pipe Line Co., Independence, Kans.

Petroleum Motor Transport Association. President, Roy F. Fike, Mid-Continent Petroleum Corp., Cosden Bldg., Tulsa, Okla.

Pierce County Independent Gasoline & Oil Dealers Association. Executive secretary, J. H. Stine, 1009½ Pacific Ave., Tacoma, Wash.

Purchasing Agents Association of Tulsa, 307 So. Cincinnati St., Tulsa, Okla. Secretary-Treasurer, H. M. Cosgrove.

Rocky Mountain Association of Petroleum Geologists, Denver, Col. Secretary, W. A. Waldschmidt, 834 First National Bank Bldg., Denver, Colo.

Rocky Mountain Independent Oil Men's Association (formerly Colorado Petroleum Club), 411 Exchange Bldg., Denver, Colo. Secretary, A. Oberholtz, Jr.

Rocky Mountain Oil & Gas Association, P. O. Box 1559, Casper, Wyo. Secretary, C. W. Sparr.

Rocky Mountain Oil & Gas Association, Montana Chapter, 222 Ford Bldg., Great Falls, Mont. Secretary, Walter F. Brittan.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Secretary, F. H. Buehler, care Dacotah Oil Co., Madison, S. D.

Southeastern Missouri Oil Marketers Association. Secretary, E. C. Smith, Kelso Oil Co., Cape Girardeau, Mo.

Southeastern Ohio Oil & Gas Producers Association, Logan, O. Secretary, W. L. Franks.

St. Louis Petroleum Club, 1430 So. Vandeventer Ave., St. Louis, Mo. Secretary, R. F. Leinberger, Blackmer Pump Co., St. Louis, Mo.

Springfield Petroleum Club, Secretary, Ross Lock, c/o Lock Bros., Oil Co., Springfield, Ill.

State Executives Club. Secretary, Paul E. Hadlick, Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn.

Tank Car Association, 1015, 139 N. Clark St., Chicago, Ill. Manager, J. Arthur Kealy.

Technical Club of Oklahoma, 208 Fisher Bldg., Tulsa, Okla. Secretary, R. I. Ginter.

Tennessee Oil Men's Association, Nashville, Tenn. Secretary, Lew W. Collins.

Texas Petroleum Marketers Association. Executive Secretary, L. H. Flinn, 915 Second National Bank Bldg., Houston, Tex.

Twin City Petroleum Club, Minneapolis, Minn. President, Perry C. Sanborn, John Hancock Oil Co., Minneapolis, Minn.

Virginia Independent Oil Men's Association, 418 E. Main St., Richmond, Va. Secretary, A. L. Tenser, Jr.

West Virginia Oil and Natural Gas Association, Fairmont, W. Va. Secretary-Treasurer, Edwin Robinson.

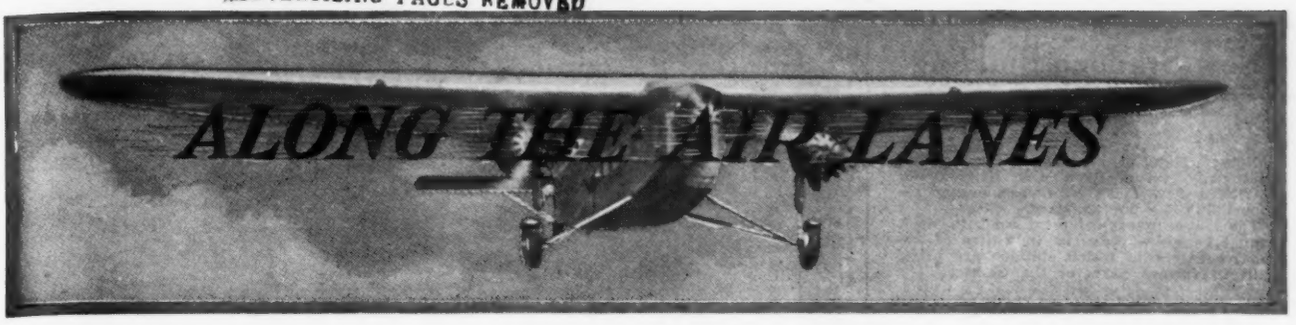
West Virginia Oil Marketers Association, 515 Peoples Exchange Bank, Charleston, W. Va. M. L. Fling, Assistant Secretary-Treasurer.

Western Petroleum Refiners Association, Cosden Bldg., Tulsa, Okla. Managing Director, Howard Bennette.

Wisconsin Petroleum Association. Secretary, H. A. Rohde, Rohde-Deuster-Hinkley Oil Co., West Allis, Wisc.

Wyoming Petroleum Club. Secretary, G. H. O'Donnell, 847 So. Lincoln St., Casper, Wyo.

ADVERTISING PAGES REMOVED



HARDLY a week passes by now but what another oil company or individual engaged in the oil industry does not more or less nonchalantly, add another plane or two to his transportation vehicles.

A new 1930 Bellanca Pacemaker has just been accepted by R. G. Grinnell, who is with the Robert N. Atmore Co., Tulsa, manufacturer of oil pumping machinery. Mr. Grinnell will use the plane both for private and business use. He expects to travel in it between the various supply depots of his company throughout the southwest, as well as to convey prospects to and from the plant where they may see the products of the company in actual operation.

Jack Julian is Mr. Grinnell's pilot.

The Spartan C-3-165 purchased Oct. 10 by the Skelly Oil Co., Tulsa, is being used for selling Skelly aerodynamic gasoline and airplane motor oils. It traveled in Texas, Oklahoma, Kansas, Missouri, Nebraska, Iowa, Minnesota and South Dakota during November.

Aviation activities are conducted by the newly organized aviation department which was inaugurated Oct. 1. A. F. Winn, manager of the traffic department for 11 years, is manager of aviation sales. M. E. Callander, war-time aviator, formerly of the sales department of the Standard Oil Co. of Indiana, is chief pilot.

Among special services recently performed by one of the planes of the Union Oil Co. included that of hurrying the master of one of its tank ships from Coos Bay, Ore., to Torrance, Calif., to the bedside of his little daughter who had a serious relapse from an appendicitis operation.

Another long emergency trip was made by airplane for one of its asphalt contractors.

Dale Riblet, of the Riblet Oil Co., Youngstown, Ohio, has about 200 flying hours to his credit although he has only one arm. When a lad nine years old he lost his arm, and has learned to fly his own plane in spite of this handicap. The ship is a Monocoupe powered by a Velie motor.

An old-year farewell and new-year greeting comes to the *Along the Air Lanes* desk from Scadta, Airway System, New York, operating in Colombia, Ecuador, Panama, Peru and other South American countries, in the form of a brightly colored map of that part of the globe, on which is attached a uniquely arranged 1930 calendar. The calendar is a pad which has a separate page for each day of the year. A quotation from the classics appears for each day.

Another greeting comes from Capt. Frank M. Hawks, who heads the aviation department of The Texas Co., New York. His greeting takes the form of a miniature reproduction of the painting by Clayton Knight of a red Texaco airplane in flight across a blue sky illumined by the pale yellow rays of the sun.

H. H. Henshaw, better known to some as the Henshaw Oil Co. of Laguna Beach, Calif., awaits only a nice well of his own to begin using an airplane for business, he says. The company has acreage in the Coalinga field.

Mr. Henshaw is one of the few individuals in the country who uses an airplane purely for pleasure. He plans to go to West Texas after the first of the year to view some of the wells coming in there.

The "air capitol," as Wichita, Kan. has a habit of calling itself, was visited by Mr. Henshaw during December.

The Southwest Air Fast Express has announced that effective Jan. 1, it has reduced fares on its lines to 5.50 cents a mile, for a "60-day trial." The company's rate has been 10 cents a mile.

The reduction will make the airplane fare lower than the usual combined rail and Pullman fare. The company serves principal cities in Oklahoma, Texas and Missouri. The new rate is approximately 7.1 cents lower than the average airplane rate.

Erle P. Halliburton, president of the company, who is also head of the Halliburton Well Cementing Co., Duncan, Okla., has bid for air mail contract from the government, and was quoted recently as stating that unless he obtained the contract, he would discontinue the Safeway lines.

The Tide Water Oil Co., New York, will furnish its Veedol motor oil to the Graf Zeppelin during the coming year, according to E. L. Shea, vice president. That company is requested to have supplies of its oil at Tromsoe, Hammerfest, Norway and at Fairbanks, Alaska, when the Graf makes its flight to the north pole.

C. F. Lienesch, special representative of the Union Oil Co. of California, recently made a business trip by airplane from Los Angeles to Detroit, accompanied by Mrs. Lienesch.

His comment on the trip was that "it was beastly cold back east."

Dale Riblet and his Monocoupe plane

New Stations Building

Note: Material used in this column is principally taken from the newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy.

The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

San Antonio, Tex.—Humble Oil & Refining Co., filling station.

Forest City, Ia.—Co-Operative Farmers Oil Co., bulk station.

Little Rock, Ark.—National Refining Co., service station.

Rock Valley, Ia.—Griener Bros., service station.

Wisconsin Rapids, Wis.—Shell Petroleum Corp., bulk station.

Marshall, Mo.—Phillips Petroleum Co., filling station.

Oskaloosa, Ia.—G. W. Harvey, service station.

St. Joseph, Mo.—Shell Petroleum Corp., service station.

New England, N. D.—Farmers Union Oil Co., bulk station.

Pueblo, Colo.—Phillips Petroleum Co., service station.

Potosi, Mo.—Washington County Oil Corp., filling station.

Pecos, Tex.—W. B. Oates, service station.

Cincinnati, O.—The Texas Co., filling stations.

Lima, O.—Standard Oil Co., filling station.

Lebanon, O.—Refiners Oil Co., filling station.

Gainesville, Fla.—Adams & Perl Service Station, bulk and service station.

Orlando, Fla.—Standard Oil Co., filling station.

Tampa, Fla.—The Texas Co., filling station.

Columbus, Ga.—Standard Oil Co., filling station.

Trenton, N. J.—Standard Oil Co., service station.

Winona, Minn.—Bittner Oil Co., service station.

Brainerd, Minn.—Clarence Peterson, filling station.

Sibley, Ia.—Phillips Petroleum Co., bulk station.

Sioux Falls, S. D.—Adams Oil Co., service station.

Sioux Falls, S. D.—Gasoline Alley Service Stations, service station.

St. Charles, Mo.—Standard Oil Co., filling station.

Dodge City, Kans.—White Eagle Oil & Refining Co., filling station.

Omaha, Neb.—Ommusy Oil & Gas Co., filling station.

Davenport, Ia.—Firestone Tire & Rubber Co., service station.

El Dorado Springs, Mo.—Shell Petroleum Corp., filling station.

Davenport, Ia.—Shell Petroleum Corp., filling station.

Pueblo, Colo.—M. C. Merrill, filling station.

Orlando, Fla.—Firestone Tire & Rubber Co., service station.

Spartansburg, S. C.—Standard Oil Co., filling station.

Abilene, Tex.—Magnolia Petroleum Co., filling station.

Hot Springs, Ark.—Standard Oil Co., service station.

Camden, Ark.—Louisiana Oil & Refining Co., service station.

New Orleans, La.—Shell Petroleum Corp., filling station.

Topeka, Kans.—Standard Oil Co., auto greasing building.

Ridgewood, N. J.—J. E. Mirandon, Inc., service station.

Hawley, Minn.—Pioneer Oil Co., bulk station.

Loup City, Neb.—Felix Makewski, filling station.

Alden, Minn.—Freeborn County Co-op Oil Co., filling station.

Paris, Tex.—Humble Oil & Refining Co., service station.

Kansas City, Mo.—J. H. Speas, filling station.

Marshall, Mo.—Standard Oil Co., filling station.

Wadsworth, O.—Harry Mench, service station.

Eau Claire, Wis.—Conley Oil Co., filling station.

Waverly, Ia.—Standard Oil Co., filling station.

Madison, S. D.—Farmers' Oil Co., service station.

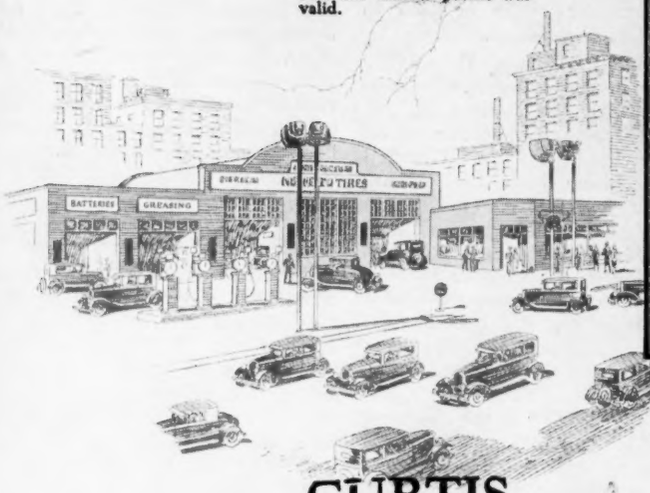
Kansas City, Kans.—Phillips Petroleum Co., service station.

Cooledge, Tex.—Gulf Refining Co., filling station.

Lubrication profits

Licensed under the basic Lunati patents.

CURTIS is licensed to manufacture rotating lifts under the Lunati patents issued in 1925 and 1926. After many months of litigation the Federal Court sustained the findings of the Standing Master who found that the Lunati patent was valid.



CURTIS

75th Anniversary Line

New TIMKEN equipped CURTIS Compressor

Curtis Compressor has Timken tapered roller bearings. Automobile type "V" belt drive [up to 2 H. P. incl.] Universal motor mounting. All steel base. Improved "Centro-Ring" oiling system. Painted attractively in red and black.

New TIMKEN equipped Curtis Compressed Air Washer

Curtis Compressed Air Washer not only washes more cars cleaner than any other power washer, but renders a complete cleaning service. Operates cleaning attachments and pneumatic tools, furnishes air for tire inflation, etc. New features: Timken equipped Curtis duplex compressor; more compact mounting; reduced weight.

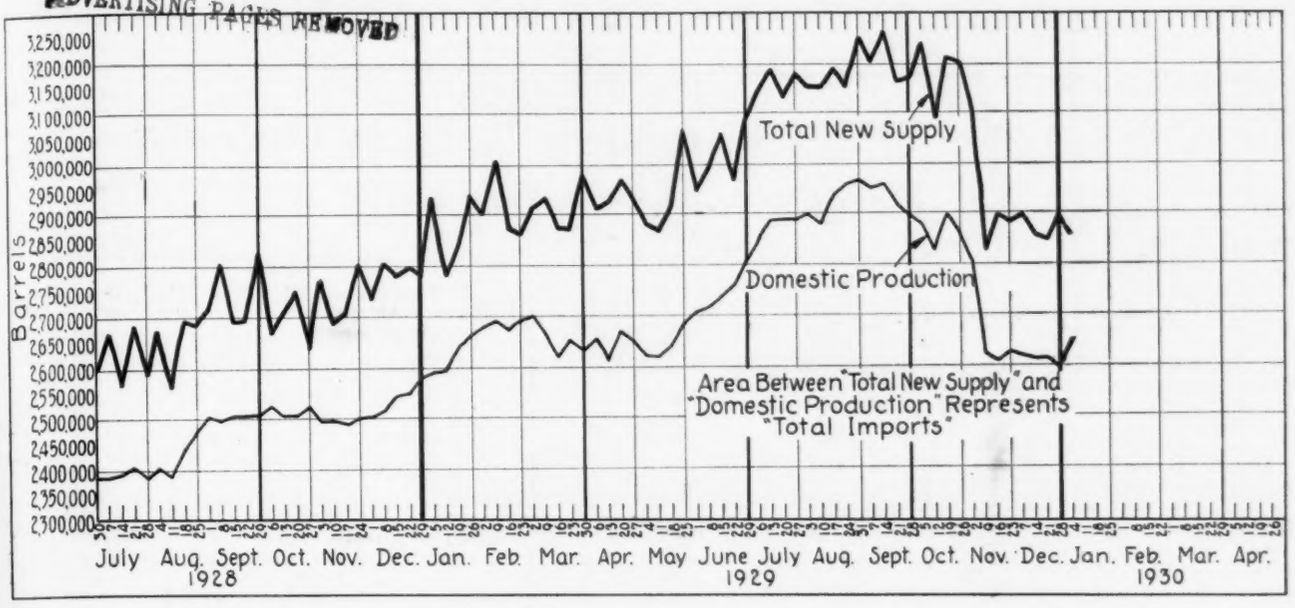
Curtis Hydraulic Car Washer—A low-priced self-contained outfit. One and two gun sizes. New slow speed pump, fully enclosed and self-oiling, specially designed by Curtis for car-wash service. Flooded and direct self-oiling systems. Special alloy steel rust-resisting double-heat-treated nozzle discs. Automatic pressure governor.

Curtis Hydraulic Car Washer

Curtis Air Stands—Reel and Tower types with or without water attachments.

ADVERTISING PAGES REMOVED

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Jan. 4	Dec. 28
Production east of Rockies	1,951,800	1,918,300
Increase		33,500
Total production in U. S.	2,652,300	2,607,700
Increase		44,600
Crude oil imports	205,430	286,860
Decrease		81,430
Total crude supply	2,857,730	2,894,560
Decrease		36,830

OKLAHOMA

	Jan. 4	Dec. 28
Allen Dome	21,300	21,250
Asher	3,450	3,550
Blackwell	3,550	3,700
Bowlegs	22,200	23,300
Braman	3,600	3,650
Bristow-Slick	18,050	18,650
Burbank	17,500	17,200
Carr City	7,800	9,850
Cromwell	7,650	7,700
Cushing	15,250	15,350
Davenport	1,300	1,250
Duncan District	8,400	8,350
East Earlsboro	53,100	.....
Earlsboro	31,250	64,900
East Little River	19,300	.....
East Seminole	3,800	4,500
Fox	1,300	1,300
Garber	4,700	4,700
Graham	3,800	3,800
Healdton	12,350	12,450
Hewitt	7,600	7,600
Hubbard	1,700	1,700
Little River	39,450	59,600
Logan County	13,900	16,250
Maud	7,900	8,200
Mission	14,400	15,150
North Okmulgee	11,450	11,450
Oklahoma City	99,300	79,050
Osage (outside Burbank)	26,700	26,800
Papoose	3,100	3,200
Pearson	850	850
St. Louis	47,650	49,950
Sasakwa	11,100	10,550
Scholem-Alechem	14,200	14,100
Searight	7,850	8,050
Seminole	22,400	24,500
South Okmulgee	6,500	7,050
Thomas	550	550
Tonkawa	8,750	8,850
Wewoka	4,300	4,300
Yale-Jennings	8,500	8,450
Others	57,900	55,900
Total, Oklahoma	675,700	647,550
Increase		28,150

KANSAS

Augusta-Fox Bush	3,050	3,000
Churchill	5,100	5,100
Eldorado-Towanda	13,550	13,500
Florence-Covert	850	950
Greenwood County	21,600	21,300
Oxford	3,300	3,500
PeabodyElbing	3,150	3,100
Rainbow Bend	1,150	1,150
Russell	3,350	3,400
Sedgwick County	24,150	23,800
Others	35,000	35,000
Total, Kansas	114,250	113,800
Increase		450

NORTH LOUISIANA

Bellevue	600	600
Caddo, light	9,900	9,450
Caddo, heavy	2,900	2,950
Cotton Valley	2,300	2,300
De Soto and Red River	3,000	3,050
Elm Grove	550	550
Haynesville	4,650	4,650
Homer	3,850	3,850
Pleasant Hill	800	750
Urania	5,200	5,200
Zwolle	3,750	3,750
Others	800	900
Total, North Louisiana	38,300	38,000
Increase		300

ARKANSAS

Champagnolle	5,150	5,550
El Dorado	4,300	4,350
Lisbon	1,050	1,100
Nevada	1,100	1,100
Smackover, light	5,650	5,700
Smackover, heavy	42,050	41,700
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	60,400	60,600
Decrease		200

TEXAS (Outside Gulf Coast)

Panhandle District

Carson County	9,400	9,200
Gray County	64,200	65,800
Hutchinson County	25,600	26,300
Wheeler County	700	600
Others	600	700
Total, Panhandle Texas	100,500	102,600
Decrease		2,100

North Texas

Archer County	18,300	18,200
Burkburnett	9,250	9,500
Electra	11,500	11,600
Iowa Park and K. M. A.	4,800	4,700
Montague-Cooke	13,050	13,500
Wilbarger	30,050	29,600
Others	1,200	1,000
Total, North Texas	88,150	88,100
Increase		50

West Central Texas

Brown County	9,600	9,500
Callahan County	3,200	3,000
Coleman County	6,650	6,550
Eastland-Desdemona	6,100	6,100
Jack County	4,100	4,000
Palo Pinto County	500	500
Shackleford County	9,300	9,300
Stephens County	5,750	6,000
Throckmorton County	600	600
Young County	6,950	7,100
Others	1,350	1,350
Total, West Central Texas	54,100	54,000
Increase		100

West Texas

	Jan. 4	Dec. 28
Crane and Upton Counties	43,000	43,900
Crockett County	2,100	2,100
Howard County	37,600	37,300
Jones County	2,200	2,400
Mitchell and Scurry Counties	2,300	2,300
Pecos County	144,000	143,800
Reagan County	17,000	17,000
Winkler County	87,000	89,450
Others	2,900	2,950
Total, West Texas	338,100	341,200
Decrease		3,100

East Central Texas

	Jan. 4	Dec. 28
Boggy Creek	3,950	3,950
Corsicana-Powell	6,500	6,750
Currie	400	400
Mexia	5,050	5,000
Nigger Creek	300	300
Richland	300	300
Van Zandt County	5,800	5,950
Wortham	900	900
Total, East Central Texas	23,200	23,550
Decrease		350

Southwest Texas

Dale	350	350
Laredo District	9,000	9,100
Luling	10,600	10,700
Lytton Springs	900	900
Refugio County	18,800	19,800
Salt Flat	28,250	28,850
Somerset	1,350	1,350
Others	6,950	3,900
Total, Southwest Texas	76,200	74,950
Increase		1,250
Total, Texas (Outside Gulf Coast)	680,250	684,400
Decrease		4,150

GULF COAST

Coastal Texas

Barbers Hills	14,400	16,900
Batson	1,300	1,300
Big Creek	7,650	6,000
Blue Ridge	2,000	2,000
Boling	1,050	1,200
Damon Mound	500	400
Fannett	1,800	1,800
Goose Creek	5,250	5,300
Hull	9,850	10,100
Humble	13,650	11,900
North Dayton	1,800	.....
Orange County	2,500	2,250
Pierce Junction	11,750	11,800
Port Neches	3,200	.....
Raccoon Bend	8,600	8,900
Saratoga	1,000	1,000
Somerville	1,950	1,850
Sour Lake	2,400	2,400
South Liberty	7,500	7,500
Spindletop	18,400	18,100
Sugarland	11,900	12,300
West Columbia	6,200	6,200
Others	4,200	4,050
Total, Coastal Texas	138,850	138,850

Coastal Louisiana

East Hackberry	1,900	2,000
Edgerly	850	650
Evangeline	3,050	1,600
Lockport	3,300	3,300
Old Hackberry	1,650	1,750
Sorrento Dome	150	150
Sulphur Dome	3,500	3,050
Vinton	4,200	4,300
Others	2,150	2,950
Total, Coastal Louisiana	20,750	19,750
Increase		1,000
Total Gulf Coast	159,500	158,600
Increase		900

ROCKY MOUNTAIN

Wyoming

Big Muddy	2,050	2,150
Elk Basin	750	700
Grass Creek	2,150	2,050
Labarge	2,300	2,200
Lance Creek	200	150
Lost Soldier	3,200	3,100
Oregon Basin	4,300	4,100
Rock Creek	2,250	2,250
Salt Creek	34,500	27,500
Others	4,700	5,100
Total, Wyoming	56,400	49,300
Increase		7,100

Montana

Cat Creek	1,250	1,200
Pondera	2,150	2,100
Sunburst	6,500	6,800
Others	100	100
Total, Montana	10,000	10,200
Decrease		200

Colorado

Florence	800	650
Fort Collins	1,800	1,800
Moffat (Craig)	1,050	1,200
Others	1,750	1,750
Total, Colorado	5,400	5,400

New Mexico

Artesia	750	750
Balance Lea & Eddy Counties	4,300	4,650
Hogback	400	400
Rattlesnake	850	900
Table Mesa	100	100
Others	950	900
Total, New Mexico	7,350	7,700
Decrease		350
Total, Rocky Mountain	79,150	72,600
Increase		6,550

CALIFORNIA

Dominguez	9,000	9,000
Elwood-Goleta	26,800	24,800
Huntington Beach	41,500	41,500
Inglewood	22,500	22,500
Kettleman Hills	11,000	9,400
Long Beach	104,000	105,000
Midway-Sunset	77,000	77,000
Santa Fe Springs	167,700	161,200
Seal Beach	28,500	28,500
Ventura Avenue	51,500	51,500
Others	161,000	159,000
Total, California	700,500	689,400
Increase		11,100

EASTERN

(Not including Michigan)	129,100	128,200
Increase		900

MICHIGAN

Mt. Pleasant	7,450	7,400
Muskegon	7,250	7,000
Saginaw	250	150
Total, Michigan	14,950	14,550
Increase		400

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations Week Ended January 3 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Jan. 3
Plants Reporting.....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs..	53,042 — 9.7	102,649 — 9.4	64,383 + 3.8	29,957 — 11.7	49,819 — 3.6	299,850 — 6.2
Da. Av. Other Oils...	8,424 + 4.1	7,416 + 99.4	3,329 — 29.4	1,658 + 45.8	—379	20,448 + 8.4
GASOLINE—Gallons						
Stocks, Dec. 27.....	23,418,000	61,284,000	21,162,000	13,311,000	11,453,000	130,628,000
Prod. 12-27 to 1-3....	9,014,000 — 11.8	15,927,000 — 7.3	8,404,000 + 0.9	3,063,000 — 9.4	4,543,000 — 10.7	40,951,000 — 7.4
Ship. 12-27 to 1-3....	8,968,000 + 20.0	14,829,000 + 18.5	8,734,000 + 41.7	3,858,000 +113.3	4,677,000 + 14.9	41,066,000 +28.2
Stocks, Jan. 3.....	23,464,000 + 0.2	62,372,000 + 1.8	20,832,000 — 1.6	12,516,000 — 6.0	11,319,000 — 1.2	130,503,000 — 0.1
Ratio Sales to Prod...	99.5%	93.1%	103.9%	126.0%	102.9%	100.3%
KEROSENE—Gallons						
Stocks, Dec. 27.....	15,238,000	7,820,000	2,617,000	57,000	1,593,000	27,325,000
Prod. 12-27 to 1-3....	1,561,000 — 10.1	2,383,000 — 11.0	1,371,000 — 6.2	86,000 + 26.7	82,000 — 14.5	5,483,000 — 9.2
Ship. 12-27 to 1-3....	1,512,000 + 11.8	2,136,000 + 1.5	1,417,000 — 6.1	.....	159,000 — 34.0	5,224,000 + 0.1
Stocks, Jan. 3.....	15,287,000 + 0.3	8,067,000 + 3.2	2,571,000 — 1.8	143,000 +150.8	1,516,000 — 4.8	27,584,000 + 0.9
Ratio Sales to Prod...	96.8%	98.6%	103.4%	.....	193.9%	95.3%
STOVE DISTILLATE—Gallons						
Stocks, Dec. 27.....	3,478,000	5,107,000	998,000	112,000	126,000	9,821,000
Prod. 12-27 to 1-3....	708,000 — 22.8	827,000 — 33.5	227,000	67,000 + 24.1	303,000 + 54.5	2,132,000 — 19.2
Ship. 12-27 to 1-3....	426,000 — 44.2	1,486,000 — 13.5	238,000 — 19.3	135,000 +213.9	129,000 — 16.8	2,414,000 — 18.8
Stocks, Jan. 3.....	3,760,000 + 8.1	4,448,000 — 12.9	987,000 — 1.1	44,000 — 60.7	300,000 +138.1	9,539,000 — 2.9
Ratio Sales to Prod...	60.2%	179.7%	104.8%	201.5%	42.6%	113.2%
GAS OIL—Gallons						
Stocks, Dec. 27.....	3,192,000	38,645,000	3,057,000	10,991,000	4,281,000	60,166,000
Prod. 12-27 to 1-3....	1,164,000 — 14.3	4,489,000 + 85.1	1,684,000 +262.2	829,000 — 8.8	1,874,000 — 8.4	10,040,000 + 39.4
Ship. 12-27 to 1-3....	1,275,000 — 26.9	4,360,000 + 98.1	1,682,000 +107.7	700,000 + 6.2	2,651,000 + 51.5	10,668,000 + 48.9
Stocks, Jan. 3.....	3,081,000 — 3.5	38,774,000 + 0.3	3,059,000 + 0.06	11,120,000 + 1.2	3,504,000 — 18.2	59,538,000 — 1.0
Ratio Sales to Prod...	109.5%	97.1%	99.9%	84.4%	141.5%	106.3%
FUEL OIL—Gallons						
Stocks, Dec. 27.....	10,729,000	32,016,000	60,004,000	15,857,000	23,044,000	150,650,000
Prod. 12-27 to 1-3....	4,344,000 — 9.7	5,479,000 — 17.9	7,894,000 — 4.2	3,772,000 — 9.3	5,571,000 — 3.8	27,060,000 — 8.8
Ship. 12-27 to 1-3....	4,808,000 — 7.9	7,078,000 + 7.0	7,868,000 — 1.7	6,175,000 — 2.1	5,899,000 + 54.5	31,828,000 + 6.2
Stocks, Jan. 3.....	10,265,000 — 4.3	30,417,000 — 5.0	69,030,000 + 0.03	13,454,000 — 15.2	22,716,000 — 1.4	145,882,000 — 3.2
Ratio Sales to Prod...	110.4%	129.1%	99.7%	163.7%	105.9%	117.6%

Gasoline Produced by Various Methods, Week Ended January 3

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	5,808,000	64.4	9,882,000	62.0	5,778,000	68.8	2,836,000	92.6	1,530,000	33.7	25,834,000	63.1
Cracked.....	2,365,000	26.2	4,937,000	31.0	1,690,000	20.1	90,000	2.9	2,145,000	47.2	11,227,000	27.4
Natural.....	841,000	9.4	1,108,000	7.0	936,000	11.1	137,000	4.5	868,000	19.1	3,890,000	9.5
Total.....	9,014,000		15,927,000		8,404,000		3,063,000		4,543,000		40,951,000	

+ or — columns are % change over previous week.

Gasoline Stocks Lowered When Shipments Spurt

Staff Special—By Telegraph
TULSA, Jan. 7

SUBSTANTIAL reduction in crude charges, 20,000 barrels daily average, was reported for the week ended Jan. 3 by the Mid-Continent refiners that furnish this publication with weekly operation reports.

Gasoline production was reduced 3,200,000 gallons with all districts except North Texas sharing in reduction. North Texas refiners increased production only 70,000 gallons, their production level probably being maintained because of the volume of export orders on the books.

Gasoline shipments increased materially since the jobbers had let their stocks run low for inventory. Increase amounted to 9,000,000 gallons with all districts sharing in larger volume of business. Stocks were reduced 100,000 gallons. Kansas and

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Jan. 3. Change in stocks figures from Dec. 6.

GASOLINE

	Gallons
Production	176,346,000
Shipments	151,570,000
Net change in stocks	+24,776,000
Ratio sales to production	86.0%

KEROSENE

	Gallons
Production	24,372,000
Shipments	23,302,000
Net change in stocks	+1,070,000
Ratio sales to production	95.6%

STOVE DISTILLATE

	Gallons
Production	10,796,000
Shipments	10,514,000
Net change in stocks	+82,000
Ratio sales to production	97.4%

GAS OIL

	Gallons
Production	33,912,000
Shipments	33,888,000
Net change in stocks	+24,000
Ratio sales to production	99.9%

FUEL OIL

	Gallons
Production	114,403,000
Shipments	128,632,000
Net change in stocks	—14,229,000
Ratio sales to production	112.4%

Oklahoma were the only districts failing to draw on storage.

Kerosene production was lower with shipments steady. Stocks increased 200,000 gallons.

Distillate production and shipments were lower but stocks were reduced 280,000 gallons.

Gas oil stocks were reduced 600,000 gallons with shipments and production each higher by 3,000,000 gallons.

Fuel production was lower, but shipments increased and stocks were reduced 4,700,000 gallons.

Test Right to Collect Gas Tax from City

HOUSTON, Jan. 2.—The right of the state of Texas to impose gasoline tax on municipalities within its borders is to be tested by the city of Fort Worth, according to information given the attorney general's office by Representative George Kemble.

It is stated that a tank car of gasoline will be "imported" from Oklahoma by the city of Fort Worth and that the right of the state of Texas to tax it will be made the basis of a suit.

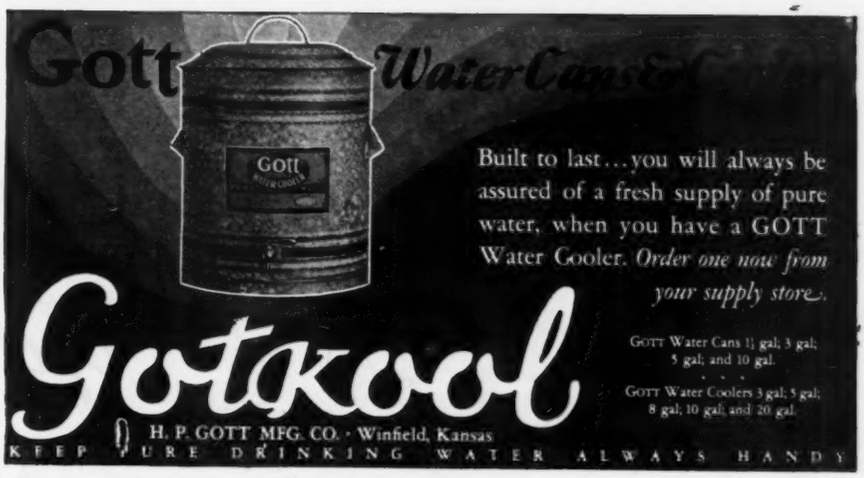
Under the Texas law, as interpreted by the attorney general's office, a quantity of gasoline brought into the state becomes taxable after reaching its destination and the breaking of the seal of the container, when either a sale or use is made of such gasoline, thereby constituting a split-up of the shipment.

The city of Fort Worth, in attempting to avoid payment of the four cents a gallon gasoline tax, will contend that no split-up applies because of usage of the entire quantity involved by the municipality.

Under interpretations of the Texas law as previously set out by the attorney general's office every person who imports gasoline into the state from a foreign state or country, and who either sells the same to the consumer or uses the same, whether engaged in the business of selling or not, becomes in effect a distributor.

"For instance," says the opinion, "if a farmer buys a 20-gallon barrel of gasoline in Oklahoma and brings it into Texas, and then uses this gasoline purely for agricultural purposes, he would be liable for the tax as a distributor and could be fined in a sum of not less than $100 nor more than $5000, or by imprisonment in the county jail for not more than six months, or both fine and imprisonment, for failure to obtain a permit from the comptroller.

"Railroads likewise would be liable, as well as other persons, for the tax when gasoline is brought into this state from another state or country, and is used in intrastate commerce."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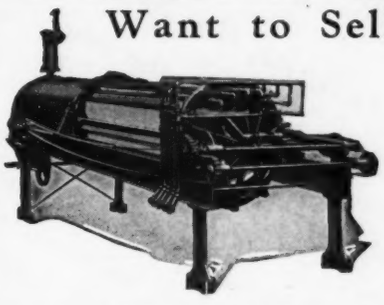

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Refinery - Tank Wagon Markets

National Petroleum News

Gasoline Prices Continue Downward; Fuel Oil Prices Also Recede

CLEVELAND, Jan. 7

FURTHER declines in tank car and cargo prices for gasoline in practically all sections of the country featured refinery markets in the week ended Jan. 4. Tank car prices for other oils also continued on a downward trend although these price movements did not contribute as much toward the troubled aspect of markets.

A radical revision in its methods of determining tank wagon and service station gasoline prices made by the Standard Oil Co. of New Jersey stood out prominently in retail market activities and upset eastern tank car markets considerably.

Local retail price reductions were spotted in other sections throughout the country. Price cutting continued unabated in California with small retailers selling gasoline as much as 5 cents a gallon under the prices posted by the larger companies.

The decline in California bulk gasoline prices probably was the most significant. It marked the first attempt on the part of refiners on the west coast to break through the 6 cent level in order to relieve their storage, which, according to reports, was becoming very badly crowded.

At least one cargo of California gasoline was offered at 5.75 cents a gallon f.o.b. California; six or seven cargoes were available at 8 cents a gallon, c.i.f. New York harbor. The latter price compares with a minimum of 8.50 cents, c.i.f. New York harbor, prevailing up to last week. A decline of 5 cents per barrel in the rate for clean bottoms, however, offset part of the reduction in gasoline prices, that is, from the angle of netback f.o.b. California.

Under current tanker rates, 8 cents c.i.f. New York harbor gives a netback of between 5.90 and 6 cents a gallon, f.o.b. California, which compares with the previous f.o.b. minimum of 6.25 cents.

Reductions in gasoline prices in all sections of the Mid-Continent, the Chicago district and western Pennsylvania ranged in amounts of from 0.125 to 0.50 cent a gallon.

Continued mild weather throughout the eastern half of the country had a depressing effect on burning oil prices. Fuel oils dropped from 2.5 to 5 cents a barrel; the lighter burning oils were off from 0.125 to 0.375 cent a gallon.

The return of large manufacturers of Pennsylvania bright stock to the market and their offerings of goods at prices from 2 to 3 cents a gallon cheaper were outstanding events in lubricating oil markets.

Chicago Market Quiet; Gasoline Off

Staff Special
CHICAGO, Jan. 4

THE Chicago resale market passed another comparatively quiet week, with most of the trade reporting business generally of a routine nature. A few sellers reported an increase in gasoline demand over the previous week, while others said there had been very little change.

The weather over most of the Standard of Indiana territory generally was warmer and this was the cause of a slackening in demand for furnace oils, most of the trade said. A number of Chicago distributors reported their demand from home burner owners was not up to expectations and consequently they had their storage tanks full and were holding tank cars on "track" which they were unable to unload.

The trend of the gasoline prices continued downward and goods were being offered at 0.125 to 0.25 cent lower than at the end of the previous week. U. S. Motor gasoline continued to show a wide spread between the high and low of the price range. Sales of this grade of goods were reported at 5.75 to 7 cents, f.o.b. Group 3, although the bulk of sales reported ranged from 6.125 to 6.75 cents.

A few refiners, both in Oklahoma and in the Chicago district, quoted U. S. Motor gasoline at 7 cents and reported doing some business at this figure. However, these sales were hardly representative of the general market. On the other hand, a few carlot marketers reported moving U. S. Motor at 5.75 and 6 cents, f.o.b. Group 3. This material originated mostly at one or two points in Illinois and was for shipment into Chicago and points in eastern Michigan and Indiana, where these refineries have a freight advantage over Group 3. Several marketers reported moving U. S. Motor into Ohio at 8.90 to 9.25 cents, delivered.

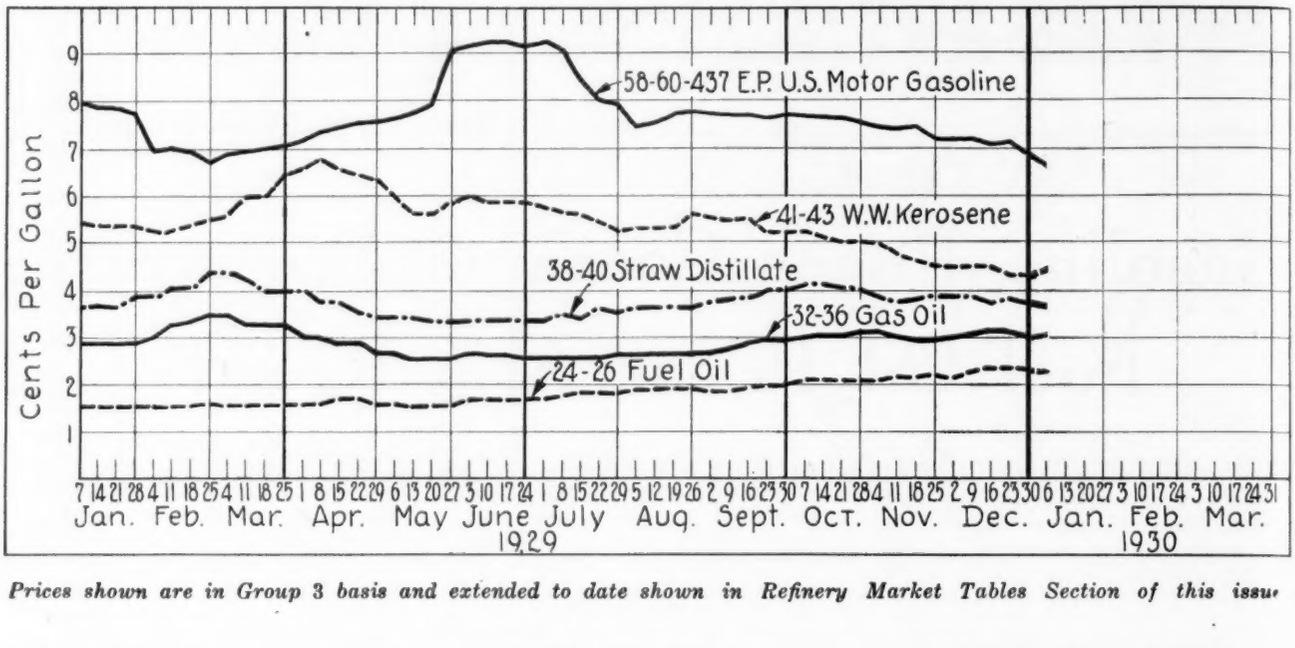
The majority of the Chicago trade, however, reported 6.125 cents as the minimum price at which the bulk of their sales of U. S. Motor gasoline were being made. They said it was extremely difficult to obtain full specification goods for resale at under 6 cents in either Oklahoma or Texas. A fair amount of sales were reported up to 6.75 cents.

A satisfactory movement of higher gravity gasolines was reported in many quarters, especially on the 64-66, 375 and 68-70, 350-360 e.p. grades. However, prices on most of these commodities moved downward in line with the decline in U. S. Motor prices.

Kerosenes continued to represent the most inactive spot in the market in the opinions of the trade and little interest was noted in this commodity.

With the exception of some sections in the northwestern part of the Indiana territory, demand for distillates, zero gas and fuel oils was comparatively light. Notwithstanding the

Current Prices of Principal Mid-Continent Refined Products


58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Cents Per Gallon
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1929
1930

Prices shown are in Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

lighter movement, there was little change in prices of these oils.

The price range of 38-40 straw distillate narrowed slightly. Several sellers who formerly quoted 4 cents reduced their prices to 3.875 cents. Goods were freely offered at 3.75 cents, and in a few cases at 3.625 cents.

The 28-30 zero fuel oil was more freely offered during the closing days of the week and prices were approximately 2.50 cents per barrel lower. Sales were reported at $1.175 on Jan. 3 and 4, whereas $1.20 was reported as the low price earlier in the week. Sales also were reported up to $1.25.

Although the spot demand for 18-22 zero fuel oil was not heavy, there was not much of this grade being offered for spot shipment and prices were somewhat higher over the week. The bulk of this grade was being offered at $0.80 to $0.85 at the end of the week.

Low temperatures will prevail over most of the Standard of Indiana territory next week, is the forecast of the Chicago weather bureau. Occasional periods of precipitation are likely.

Station Sale Hits Snag

WASHINGTON, Jan. 4.—A deal between the Penn Oil Co. and the Shell interests, which would have resulted in putting the latter into the local market through the 40 odd stations of the former on January 3, according to Paul Himmelfarb, president of the Penn company, struck a snag on the day it was supposed to go through. Mr. Himmelfarb said he could say no more than that at this time.

Appearance of half dozen Shell tank wagons glittering with new red and yellow paint in Pennsylvania Avenue in front of the White House yesterday resulted in a belief on the part of those who had heard of the supposed transaction that it had been consummated. However, according to Mr. Himmelfarb the Penn company is still in business here.

Transcontinental To Blend Ethyl

TULSA, Jan. 4.—The Transcontinental Oil Co. of Tulsa has announced the acquisition of a contract to make Ethyl gasoline, and the first shipments were made from its blending plant around the first of the year. The company operates two refineries in Oklahoma—one at Bristow and the other at Boynton—and one plant at Fort Worth, Tex. The Ethyl fluid will be blended with the company's Marathon brand of gasoline.

Shipments From Southern California

LOS ANGELES, Dec. 31.—Shipments of bulk petroleum from Southern California ports for the week ending Dec. 28 were as follows: (Figures in barrels)

Destination	Crude	Gasoline	Diesel	Kerosene	Gas-Oil	Fuel	Fuel-Dist.
Pacific For.	216,214	75,257	48,033	42,435	.....	183,922	.....
Atlantic Dom.	.....	223,216	.....	.....	65,262	128,213	94,468
Atlantic For.	.....	341,447	.....	.....	.....	.....	.....

Prices 10 Years Ago
Jan. 5, 1920

	Oklahoma	Penna.
58-60 U. S. Motor	16.00–16.25c	19.50c
80-84 Natural	22.75–23.00c	.....
Kerosene (41-43 Okla.; 47 w. w. Pa.)	10.00–10.25c	13.50–14.00c
Fuel Oil (24-26 Okla.; 38-40 Pa.)	$2.50–$2.60	10.25–10.50c
Crude (Okla. 35-35.9)	$3.00	$5.00
Chicago tank wagon		21.00c

Prices A Year Ago
Jan. 7, 1929

	Oklahoma	Penna.
58-60 U. S. Motor	7.9390c	10.25–10.50c
Grade A Natural	7.25–7.50c	.....
Kerosene (Okla. 41-43; Pa., 47 w. w.)	5.375–5.50c	7.75–8.75c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.625–$0.675	4.75–5.25c
Crude (Okla. 35-35.9)	$1.31	$4.00
Chicago tank wagon		15.00c

Mid-Continent Refinery Markets

Prices Down in Week of Dull Trading

Staff Special
TULSA, Jan. 4

MID-CONTINENT refinery markets were featureless as the old year went out and the new year came in. Refiners reported a quiet week as far as the spot gasoline market was concerned. In an effort to obtain the relative small amount of business appearing in the market, a number of sellers quoted 0.25 to 0.50 cent under their former prices.

A majority of Oklahoma refiners sold 58-60 U. S. Motor within a range of 6.25 to 7 cents. One or two continued to quote 7.25 cents but reported little business at that price. Indications were that a number of middle western buyers refilled their tanks after inventory the first of the year and this buying absorbed much of the distress gasoline.

Two tankwagon reductions within the month at Shreveport, coupled with more competition from outside markets caused Arkansas and Louisiana refiners to reduce 58-60 U. S. Motor price 0.25 cent, to 7 cents for shipment within their differential territory.

Sales of 58-60 U. S. Motor were made by north Texas refiners 0.25 to 0.50 cent under the previous week's prices. The bulk of gasoline moved within a price range of 6 to 6.375 cents.

Most of the gasoline moved in west Texas apparently was on a contract basis. Little activity was reported in the spot market and quotations were in line with north Texas prices.

Kansas gasoline prices for the most part were controlled by Oklahoma quotations, refiners maintaining their usually 0.25 cent differential above the high of Oklahoma sellers' quotatons.

Natural Gasoline

Several inquiries late in the week indicated some new buying within the next few days. Reports of distress goods were more frequent. There was little spot business to absorb the surplus gasoline.

Grade A had a slight lead over grade AA, it being quoted mostly at 6 cents. Grade AA price was pegged at 5.75 cents. One large sale was made for shipment late in the month at 5.50 cents.

The lower grades showed the largest price decline. Grade B was slightly higher than grades BB and C but the warm weather was causing the three grades to move closer together in price. Spot sales of these grades were extremely light and quotations were sent out from a few sources at 5 cents for grades BB and C and 5 to 5.125 cents on the grade B.

Fuel Oils

While fuel oil continued to be the most active commodity in the spot market there was a noticeable falling off in demand in all districts. A number of refiners reported they were oversold for January delivery but that they were able to secure fuels from several sources to apply on their orders.

The 28-30 zero grade which had been extremely scarce for spot shipment recently was available during the week at lower prices. The lighter demand caused slight price reductions in a number of other grades, especially the fuels with a comparatively high cold test.

Gas Oils and Distillates

Zero gas oils were not as active and prices lost ground. One large refiner moved a large number of cars of 32-36 straw zero gas at 3.25 cents. Prior to this time the supply of this oil offered in the spot market had been limited with prices ranging up to 3.50 cents per gallon.

Distillate demand was light with little change noted in prices. While frequent cold spells have caused spasmodic increase in demand at times, the weather has not been severe enough for any length of time to stimulate buying.

Neutral Oils and Bright Stocks

Demand for 200 No. 3 color neutral oil was improved. The oil was reported scarce by several refiners. One refiner was offered 13 cents for a quantity of this grade for immediate shipment. Other refiners sold this oil in limited quantities at 2 cents under this price.

No change was made in bright stock prices and little activity was noted in the market. Wax was slightly lower in price and demand was light.

Enters Industrial Naphtha Field

CHICAGO, Jan. 4.—The Commerce Petroleum Co., Chicago, distributors of gasoline and fuel oils, have entered the industrial naphtha field. They will handle the products of the Anderson-Prichard Oil Corp., Oklahoma City.

To handle these new products and facilitate distribution of their other products, Commerce has opened a fifth bulk storage plant at 3316 N. Kedzie Ave., having a storage capacity of 300,000 gallons.

A new laboratory has been installed to handle technical service and sales problems. E. G. Langer will have charge of sales.

9-30

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Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect January 6

	Price F.O.B. Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	6.8909	(Wt. Avg.)	6.8909	(Wt. Avg.)	.....
Kansas	6.50–6.75	.....	.....	.....	S. O. Neb. & Indiana Territory, etc.
Kansas	.....	.....	7.5000	(Wt. Avg.)	Kansas only.
North Texas	6.125–6.375	.....	6.125–6.375	.....	.....
West Texas	6.125–6.375	.....	6.125–6.25	.....	.....
Louisiana-Arkansas	6.25–6.75	.....	.....	.....	Michigan, Ohio and Indiana.
Louisiana-Arkansas	.....	.....	7.00	.....	State or differential haul.
Indiana-Illinois	6.625–7.00	.....	.....*	.....	S. O. Indiana territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Chicago Resale Market

CHICAGO, Jan. 4

THE Chicago market passed another quiet week with gasoline prices still tending downward and other products generally unchanged. While most Chicago sellers reported the bulk of their U. S. Motor gasoline sales were at 6.125 to 6.75 cents, goods also moved at 5.75 and 7 cents. Carlot marketers reported sales of U. S. Motor at 5.75 and 6 cents, f.o.b. Group 3. The goods originated mostly at Illinois refineries and moved into Chicago and points in eastern Michigan and Indiana, where these refineries have a freight advantage over Group 3. Some of the goods moved into Ohio at 8.90 to 9.25 cents, deliveried.

Following prices represent sales made on Group 3 freight basis, although goods generally originate elsewhere.

	Prices Jan. 6	**Prices Dec. 30**	**Prices Dec. 23**
58-60 U. S. Motor, 437 e.p.	6.125– 6.75	6.25 – 7.00	6.375– 7.00
60-62 437 e.p. gasoline	6.25 – 7.00	6.375– 7.00	6.50 – 7.00
60-62 400 e.p. gasoline	6.75 – 7.125	6.75 – 7.25	7.125– 7.50
64-66 375 e.p. gasoline	7.625– 8.00	7.75 – 8.00	7.75 – 8.00
68-70 350-360 e.p. gasoline	8.25 – 8.375	8.25 – 8.375	8.25 – 8.37$_5$
41-43 w.w. kerosene	4.00 – 4.25	4.00 – 4.25	4.125– 4.25
42-44 w.w. kerosene	4.375– 4.75	4.375– 4.75	4.50 – 4.75
38-40 straw distillate	3.75 – 3.875	3.75 – 4.00	3.75 – 4.00
32-36 ordinary dark gas oil	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
32-36 dark zero gas oil	3.25 – 3.375	3.25 – 3.375	3.25 – 3.37$_5$
32-36 straw zero gas oil	3.375– 3.50	†3.375– 3.50	†3.375– 3.50
28-30 zero fuel oil	$1.175–$1.25	†$1.20 –$1.25	†$1.175–$1.25
28-30 fuel oil	$1.075–$1.125	$1.075–$1.125	$1.075–$1.12$_5$
24-26 fuel oil	$0.90 –$0.975	$0.90 –$0.975	$0.875–$0.92$_5$
18-22 fuel oil, low sulfur	$0.80 –$0.85	$0.775–$0.85	$0.75 –$0.80
18-22 fuel oil, high sulfur zero	$0.80 –$0.85	†$0.775–$0.85	$0.75 –$0.80

Weighted Average Prices

OKLAHOMA

	Jan. 6		**Dec. 30**		**Dec. 23**	
	No. of cars	**Price**	**No. of cars**	**Price**	**No. of cars**	**Price**
58-60 U. S. Motor, 437 e.p.	37	6.8909	31	6.9637	42	7.1964
60-62 437 e.p. gasoline	7	6.9464	8	6.8750	2	7.2500
60-62 400 e.p. gasoline	4	7.4375	11	7.2727	3	7.5000
64-66 375 e.p. gasoline	2	8.0000	3	7.9167	1	8.0000

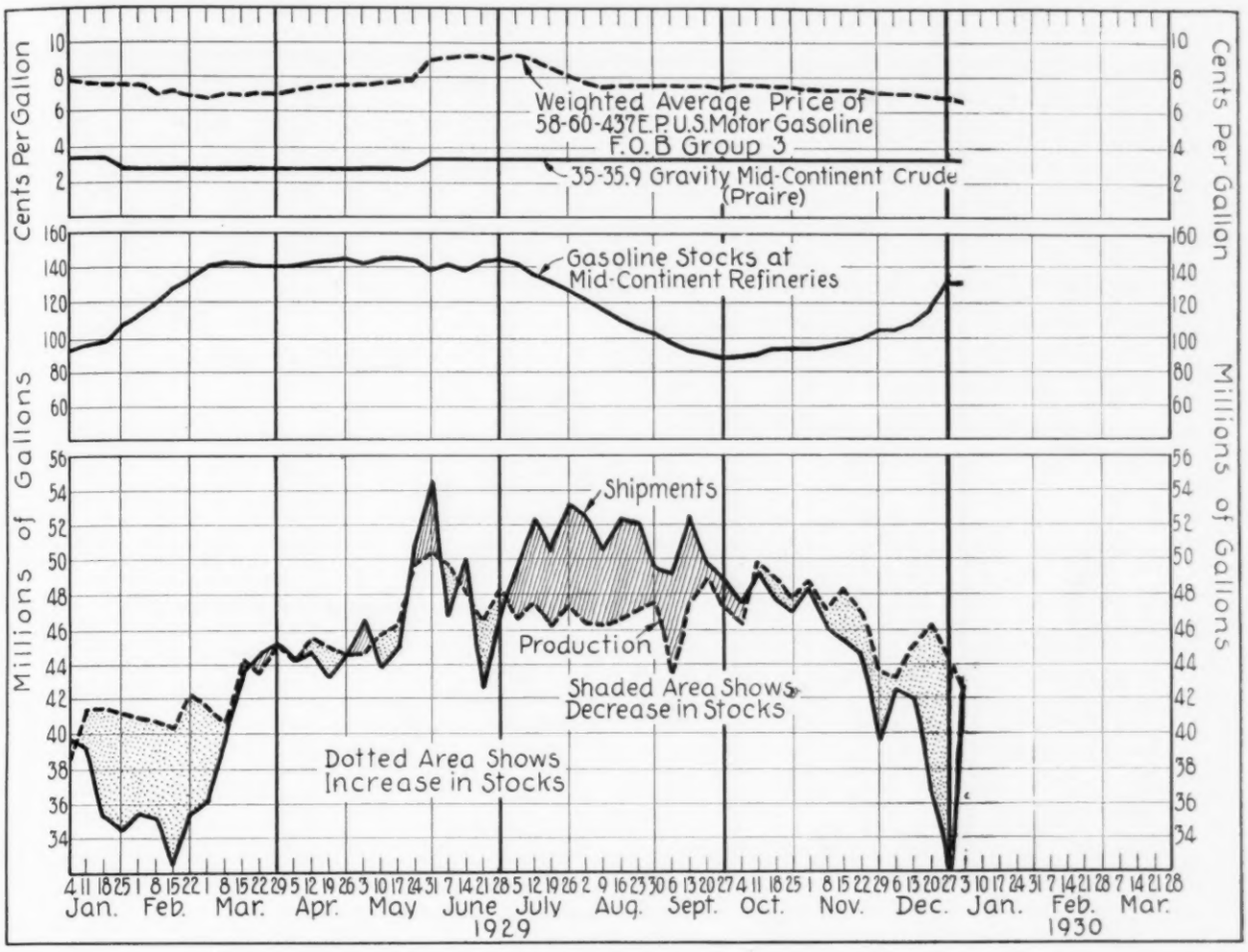
KANSAS

	Jan. 6		**Dec. 30**		**Dec. 23**	
	No. of cars	**Price**	**No. of cars**	**Price**	**No. of Cars**	**Price**
58-60 U. S. Motor, 437 e.p.	1	7.5000	No sales reported		No sales reported	

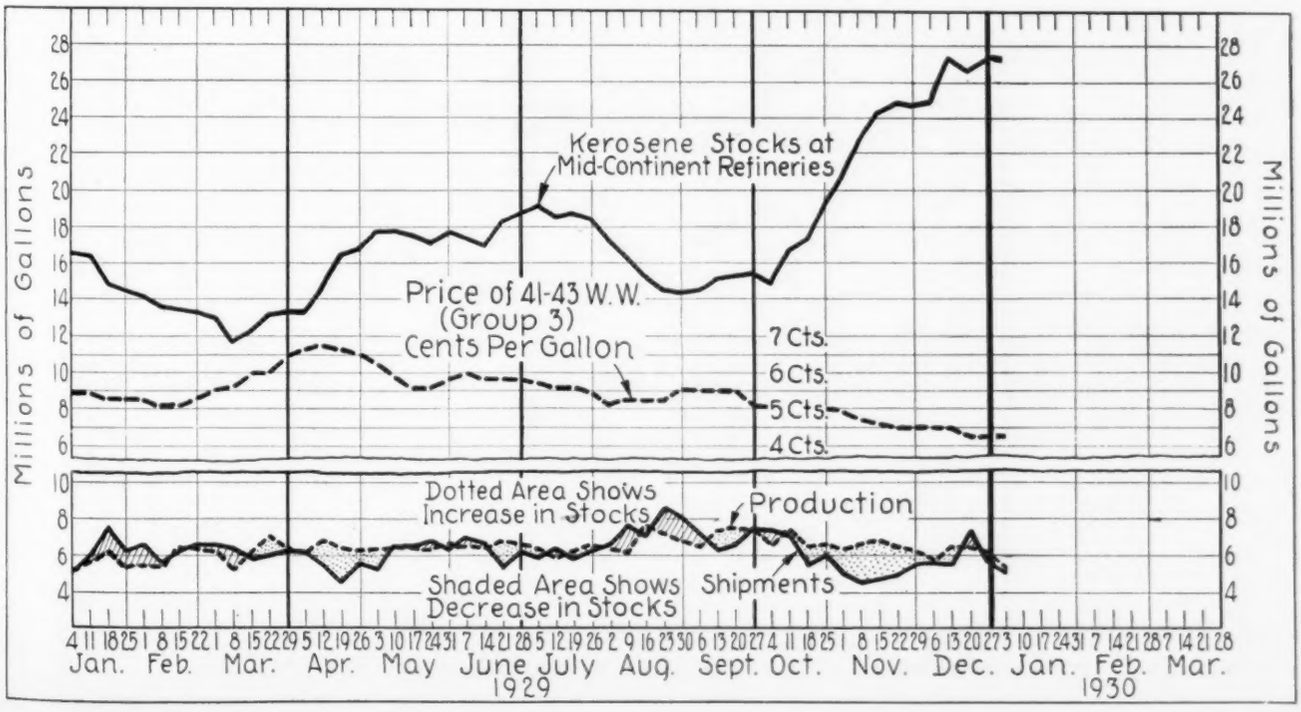
†Prices nominal

Barometer of Mid-Continent Refinery Market—Week Ending January 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Weighted Average Price of 58-60-437 E. P. U.S. Motor Gasoline F.O.B Group 3
35-35.9 Gravity Mid-Continent Crude (Praire)
Gasoline Stocks at Mid-Continent Refineries
Millions of Gallons
Shipments
Production
Shaded Area Shows Decrease in Stocks
Dotted Area Shows Increase in Stocks
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1929
1930

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 90


Millions of Gallons
Kerosene Stocks at Mid-Continent Refineries
Price of 41-43 W.W. (Group 3) Cents Per Gallon
7 Cts.
6 Cts.
5 Cts.
4 Cts.
Dotted Area Shows Increase in Stocks
Production
Shaded Area Shows Decrease in Stocks
Shipments
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1929
1930

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA	Prices Jan. 6	Prices Dec. 30	Prices Dec. 23
48-50 450 e.p. naphtha...	6.50 – 6.75	6.50 – 7.00	6.75 – 7.00
50-52 450 e.p. naphtha...	6.50 – 6.75	6.50 – 7.00	6.75 – 7.00
56-58 450 e.p. gasoline...	6.125– 6.375	6.25 – 6.50	6.375– 6.75
58-60 450 e.p. gasoline...	6.25 – 6.375	6.25 – 6.50	6.50 – 6.75
64-66 390 e.p. gasoline...	7.25 – 7.625	7.375– 7.625	7.50 – 7.625
68-70 350-360 e.p. gasoline	8.00 – 8.25	8.125– 8.25	8.125– 8.25
PENNSYLVANIA			
52-54 Naphtha.....	7.25 – 7.75	7.25 – 8.00	7.25 – 8.00
54-56 Naphtha.....	7.25 – 8.00	7.25 – 8.25	7.25 – 8.25
58-60 U.S. Motor 437 e.p.	7.75 – 8.75	7.75 – 8.75	7.875– 8.75
60-62 400-410 e.p. gasoline	8.125– 8.75	8.25 – 8.75	8.25 – 9.00
64-66 390 e.p. gasoline....	8.375– 9.00	8.50 – 9.00	8.50 – 9.50
68-70 350-360 e.p.....	9.375–10.00	9.50 –10.25	9.50 –10.50
OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)			
U. S. Motor Gasoline			
Ohio, delivery at any point.....	9.50	9.50	9.50
KANSAS (F. O. B. refinery Kansas destination)			
60-62 400 e.p. gasoline...	7.25 – 7.75	7.25 – 7.75	7.50 – 7.75
64-66 375 e.p. gasoline...	7.625– 8.00	7.625– 8.00	7.75 – 8.25
NORTH TEXAS			
56-58 450 e.p. gasoline...	6.00 – 6.25	6.25	6.25 – 6.625
58-60 450 e.p. gasoline...	6.00 – 6.25	6.25	6.25 – 6.625
58-60 U.S. Motor 437 e.p.	6.125– 6.375	6.25 – 6.50	6.375– 6.625
60-62 400 e.p. gasoline...	6.75 – 7.00	6.875– 7.00	6.875– 7.125
64-66 390 e.p. gasoline...	7.25 – 7.50	7.375– 7.50	7.50 – 7.625
64-66 375 e.p. gasoline...	7.75	7.75	7.75 – 7.875
68-70 350-360 e.p. gasoline	8.00 – 8.375	8.125– 8.375	8.125– 8.375
****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**			
50-52 naphtha.....	5.75	5.75	5.75
58-60 437 e.p. gasoline...	6.00 – 6.125	6.125– 6.375	6.25 – 6.375
58-60 U.S. Motor 437 e.p. gasoline.....	6.125– 6.25	6.25 – 6.50	6.375– 6.625
NORTH LOUISIANA (N. La., Ark. and Miss. destination)			
58-60 U.S. Motor gasoline	7.00	7.25	7.25
ARKANSAS (Ark., N. La. and Miss. destination)			
58-60 U.S. Motor 437 e.p.	7.00	7.25	7.25
CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)			
54-58 U.S. Motor 437 e.p.	‡9.00 –10.00	‡9.50 –10.50	‡9.50 –10.50
58-61 375-400 e.p. gasoline	10.00 –11.00	10.50 –11.50	10.50 –11.00
42-45 Engine Distillate 445-480 e.p.....	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00

‡For outside state shipment price was 7.25–8.25c on Oct. 21. 7.00–8.00c on Oct. 28 and Nov. 4. 6.50–7.25c on Nov. 11, 18 and 25. 7.00–7.75c on Dec. 2, 9, 16, 23, 30 and Jan. 6.

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery.....	5.50 – 5.75	6.00	6.25
Grade A, 72-79.9, 90% Recovery.....	5.50 – 5.75	6.125	6.50 – 6.625
Grade BB, 84-92, 85% Recovery.....	4.75 – 5.00	5.25 – 5.50	5.50 – 5.625
Grade B, 76-83.9, 85% Recovery.....	4.75 – 5.00	5.50	6.00 – 6.125
Grade C, 80-92, 78% Recovery.....	4.75 – 5.00	5.25 – 5.50	5.50 – 5.625
NORTH TEXAS (F. o. b. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery.....	5.50 – 5.75	6.00	6.25
Grade A, 72-79.9, 90% Recovery.....	5.50 – 5.75	6.125	6.50 – 6.625
Grade BB, 84-92, 85% Recovery.....	4.75 – 5.00	5.25 – 5.50	5.625
Grade B, 76-83.9, 85% Recovery.....	4.75 – 5.00	5.50	6.00 – 6.125
Grade C, 80-92, 78% Recovery.....	4.75 – 5.00	5.25 – 5.50	5.625
NORTH LOUISIANA (F. o. b. Monroe District)			
Grade AA.....	†6.00	†6.25	†6.50
Grade BB.....	†5.25	†5.75	†6.00
Grade C.....	†5.25	†5.75	†6.00
CALIFORNIA			
75-85, 375-390 e.p. blend	8.00 – 9.00	8.00 – 9.00	8.50 – 9.00

†Prices nominal ††Only one refiner quoting *Quotations only

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene.....	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
46 w.w. kerosene.....	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
47 w.w. kerosene.....	6.50 – 6.75	6.50 – 6.75	6.50 – 7.00
300 mineral seal.....	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
OKLAHOMA			
41-43 w.w. kerosene.....	4.125– 4.50	4.125– 4.50	4.125– 4.50
42-44 w.w. kerosene.....	4.25 – 5.00	4.375– 5.00	4.375– 5.00
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene.....	4.50 – 4.75	4.50 – 5.00	4.50 – 5.00
42-44 w.w. kerosene.....	4.75 – 5.00	4.75 – 5.25	5.00 – 5.25
NORTH TEXAS			
40-42 w.w. kerosene.....	4.00	4.00	4.00 – 4.125
41-43 w.w. kerosene.....	4.125– 4.25	4.00 – 4.25	4.125– 4.25
NORTH LOUISIANA (N. La., Ark. and Miss. destination)			
41-43 w.w. kerosene.....	5.25	5.25	5.25
42-44 w.w. kerosene.....	5.25 – 5.50	5.50	5.50
ARKANSAS (Ark., N. La. and Miss. destination)			
42-44 w.w. kerosene.....	5.25 – 5.50	5.50	5.50
CALIFORNIA			
38-40 w.w. kerosene.....	4.50 – 5.50	5.50 – 6.00	5.50 – 6.00

NEUTRAL OIL

PENNSYLVANIA			
Vis.		**(Viscosity at 70°F.)**	
200 No. 3 Assoc. Filt.....	24.50 –27.00	24.50 –27.00	24.50 –27.00
180 No. 3 Assoc. Filt.....	19.50 –23.00	19.50 –23.00	19.50 –23.00
150 No. 3 Assoc. Filt.....	15.50 –18.00	15.25 –18.00	15.25 –18.00
		(Non Viscous)	
34 Grav. 330-340 Flash..	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
****OKLAHOMA**			
Vis. Color		**(Viscosity at 100°F.)**	
100—No. 2.....	6.00 – 7.50	6.00 – 7.50	6.00 – 7.50
150—No. 3.....	7.75 – 8.50	7.50 – 8.50	7.50 – 8.50
150—No. 4.....	6.75 – 8.00	6.75 – 8.00	6.75 – 8.00
180—No. 3.....	9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4.....	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
180—No. 5.....	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200—No. 3.....	11.00 –13.00	10.50 –12.00	10.50 –12.00
200—No. 4.....	10.00 –11.00	10.00 –11.00	10.00 –11.00
200—No. 5.....	9.50 –11.00	9.50 –11.00	9.50 –11.00
220—No. 3.....	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4.....	12.00 –12.50	12.00 –12.50	12.00 –12.50
220—No. 5.....	11.00 –12.00	11.00 –12.00	11.00 –12.00
240—No. 3.....	13.00 –15.00	13.00 –16.00	13.00 –16.00
240—No. 4.....	12.00 –13.50	12.00 –13.75	12.00 –13.75
240—No. 5.....	11.00 –13.00	11.00 –13.00	11.00 –13.00
280—No. 3.....	16.00 –17.00	16.00 –17.00	16.00 –17.00
280—No. 4.....	14.00 –16.00	14.00 –16.00	14.00 –16.00
280—No. 5.....	13.00 –15.00	13.25 –15.00	13.00 –15.00

**Represents Both Sales and Quotations.

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices Jan. 6	Prices Dec. 30	Prices Dec. 23
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.00 – 6.50	6.00 – 7.00	6.00 – 7.00
200	No. 3 Pale	8.50 – 9.00	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	9.50 –10.00	9.75 –10.25	10.00 –10.75
500	No. 3½ Pale	10.50 –11.00	11.00 –11.50	11.50 –12.00
750	No. 4 Pale	12.00 –12.50	12.50 –13.00	12.50 –13.00
200	No. 5½ Red Oil	7.50 – 8.00	7.75 – 8.25	8.00 – 8.75
300	No. 5½ Red Oil	8.50 – 9.00	8.75 – 9.25	9.00 –10.00
500	No. 6 Red Oil	9.50 –10.00	9.50 –10.00	9.50 –10.00
750	No. 6 Red Oil	11.50 –12.00	11.50 –12.00	11.50 –12.00

CALIFORNIA

Vis.	Color			
		(Viscosity at 100°F.)		
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

**OKLAHOMA

190-200 Vis. D at 210° Brt. St.	41.00 –42.00	39.00 –42.00	41.00 –42.00
150-160 Vis. D at 210° Brt. St.	37.00	37.00	37.00
150-160 Vis. E 210° Brt. St.	35.00 –36.00	35.00 –36.00	35.00 –36.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	9.00	9.00	9.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	23.50 –25.00	24.00 –25.00	25.00 –26.00
650 Steam Refined	29.50 –31.00	29.50 –31.00	29.50 –31.00
600 Flash	30.00 –32.00	32.00 –33.00	32.00 –33.00
625 Flash	36.00 –36.50	36.00 –36.50	36.00 –36.50
600 Warren E	32.00 –32.50	32.00 –32.50	32.00 –32.50
600 Oil City E	30.00 –31.00	30.50 –31.00	30.50 –31.00
600 D Filtered	35.50 –37.00	36.00 –37.00	36.00 –37.00
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	42.00 –44.00	44.00 –46.00	45.00 –47.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	†41.00 –42.00	42.00 –44.00	42.50 –44.00

WAX

PENNSYLVANIA (Per pound, New York)

122-124 white crude scale, a.m.p.	3.00 – 3.125	3.00 – 3.125	3.125
124-126 white crude scale, a.m.p.	3.00 – 3.125	3.125	3.125

**OKLAHOMA

124-126 White Crude Scale, a. m. p.	2.875– 3.00	3.00	3.00

CALIFORNIA

White crude scale, per pound, ton lots, a.m.p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	4.50 – 5.00	4.625– 5.00	4.625– 5.00
30-34 fuel oil	4.50 – 4.875	4.625– 4.875	4.625– 4.875
28-32 fuel oil	4.50 – 4.875	4.625– 4.875	4.625– 4.875

OKLAHOMA

	Prices Jan. 6	Prices Dec. 30	Prices Dec. 23
38-40 straw distillate	3.625– 3.875	3.625– 3.875	3.75 – 3.875
36-38 straw distillate	3.50 – 3.625	3.50 – 3.75	3.75
32-36 straw gas oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.25
32-36 straw gas oil zero	3.25 – 3.375	3.50	3.375– 3.50
32-36 dark gas oil	2.75 – 3.00	2.875– 3.00	2.875– 3.00
32-36 dark gas oil zero	3.25 – 3.375	3.375	3.375– 3.50
28-30 zero fuel oil	$1.15	$1.20 – 1.25	†$1.20 – 1.25
28-30 fuel oil (in bbls.)	$1.05 – 1.15	$1.05 – 1.15	$1.10 – 1.15
26-28 fuel oil (in bbls.)	$0.975– 1.05	$1.00 – 1.05	$0.975– 1.05
24-26 fuel oil (in bbls.)	$0.95 – 1.00	$0.95 – 1.00	†$0.95 – 1.00
22-26 fuel oil (in bbls.)	$0.95 – 1.00	$0.90 –$1.00	$0.90 – 0.95
18-22 fuel oil (in bbls.)	$0.80 – 0.85	$0.80 – 0.85	$0.75 – 0.80
16-20 fuel oil (in bbls.)	$0.70 – 0.85	$0.75 – 0.85	$0.70 – 0.80
14-16 fuel oil (in bbls.)	$0.70 – 0.85	$0.70 – 0.85	$0.70 – 0.80

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.875– 4.00	3.875– 4.125	4.00 – 4.25
36-38 straw distillate	3.75 – 3.875	3.875	3.875– 4.00
32-36 straw gas oil	3.50	3.50	3.375– 3.50
18-22 fuel oil	$0.85 – 0.90	$0.85 – 0.90	$0.825– 0.90
10-14 fuel oil	$0.775– 0.85	$0.775– 0.85	$0.75 – 0.85

NORTH TEXAS

38-40 straw distillate	3.50 – 3.75	3.50 – 3.75	3.625– 3.75
38-40 p.w. treated distillate	3.625– 3.75	3.625– 3.75	3.75 – 3.875
32-36 gas oil, cracked	3.00 – 3.125	3.00 – 3.25	3.00 – 3.25
32-36 St. reduced gas oil	2.50 – 2.75	2.50 – 2.625	2.50 – 2.75
24-26 fuel oil (in bbls.)	$0.725– 0.80	$0.75 – 0.80	$0.75 –$0.80
20-24 fuel oil	$0.65 – 0.70	$0.65 – 0.70	$0.625– 0.70
18-22 fuel oil	$0.65	$0.65	$0.65

**WEST TEXAS (F. o. b. West Texas refinery, for unrestricted shipment)

34-38 gas oil	2.50 – 2.75	2.625– 2.75	2.625– 2.75
30-32 gas oil	2.375– 2.625	2.375– 2.75	2.50 – 2.75
28-30 zero gas oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.125
18-22 fuel oil	$0.60 – 0.70	$0.60 – 0.70	$0.60 – 0.70

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	3.50	3.50	3.50
32-36 gas oil, straw	3.50	3.50	3.50
14-16 fuel oil (in bbls.)	$0.775– 0.85	$0.775– 0.85	$0.75 – 0.85

ARKANSAS (Ark., N. La. and Miss. destination)

Black oil	3.25	3.25	3.25
20-24 fuel oil	$0.95	$0.95	$0.95
32-36 gas oil, straw	3.50	3.50	3.50
32-36 dark gas oil	3.50	3.50	3.50
28-30 gas oil	3.25	3.25	3.25
‡9-12 fuel oil	$0.70	$0.70	$0.70

‡Gravity changed from 14-16 fuel oil to 9-12 fuel oil Dec. 23.

CALIFORNIA (F. o. b. San Joaquin Valley. At San Francisco 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.45 –$0.60	$0.45 –$0.60	$0.45 –$0.60
14-18 Bunker oil (per bbl.)	$0.70 –$0.75	$0.60 –$0.75	$0.65 –$0.75
30-34 gas oil (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90
27 Plus Diesel oil (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
Lily White	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
Cream White	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Light Amber	3.75	3.75	3.75
Amber	3.50	3.50	3.50
Red	3.25	3.25	3.25

PETROLEUM COKE

**OKLAHOMA

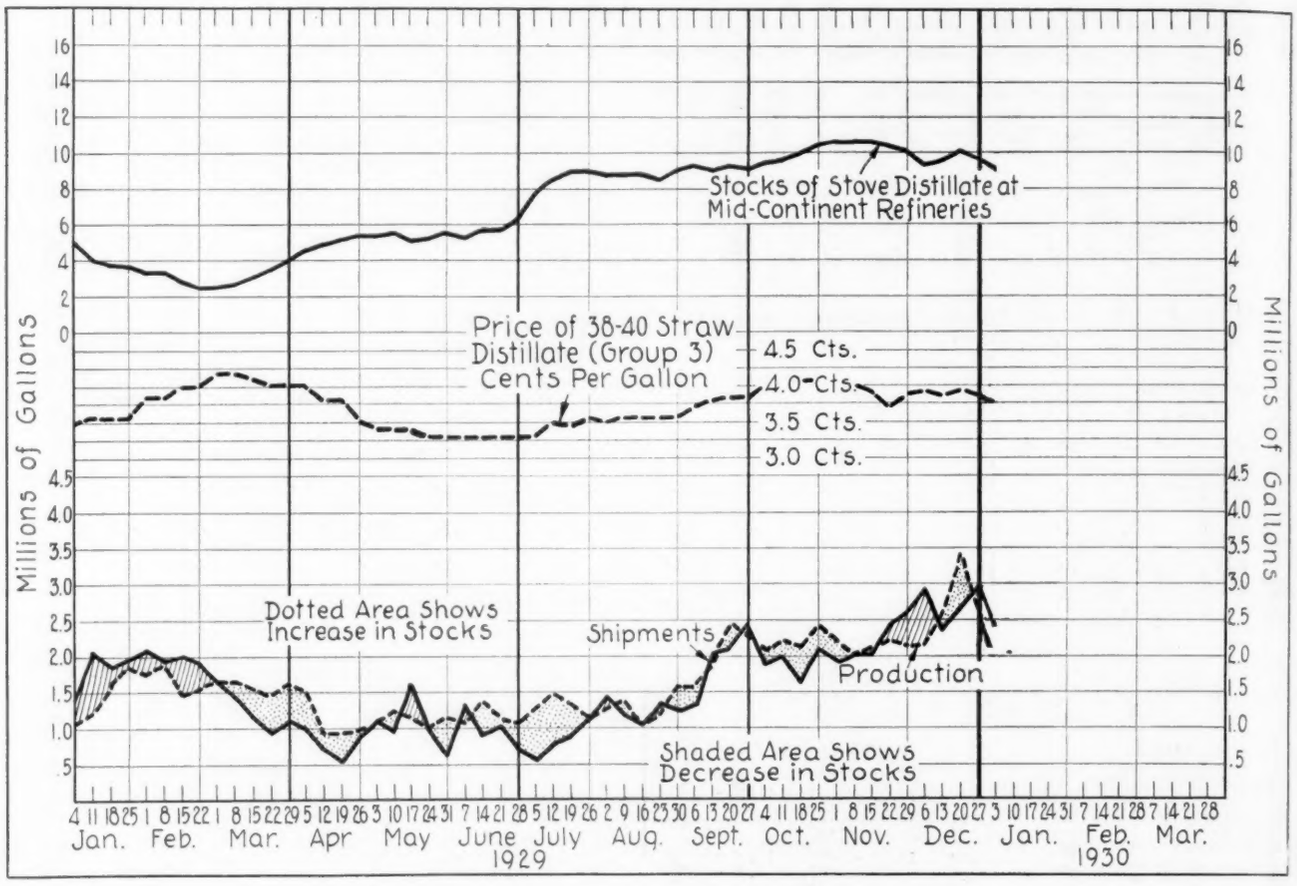
(Per ton in car lots)

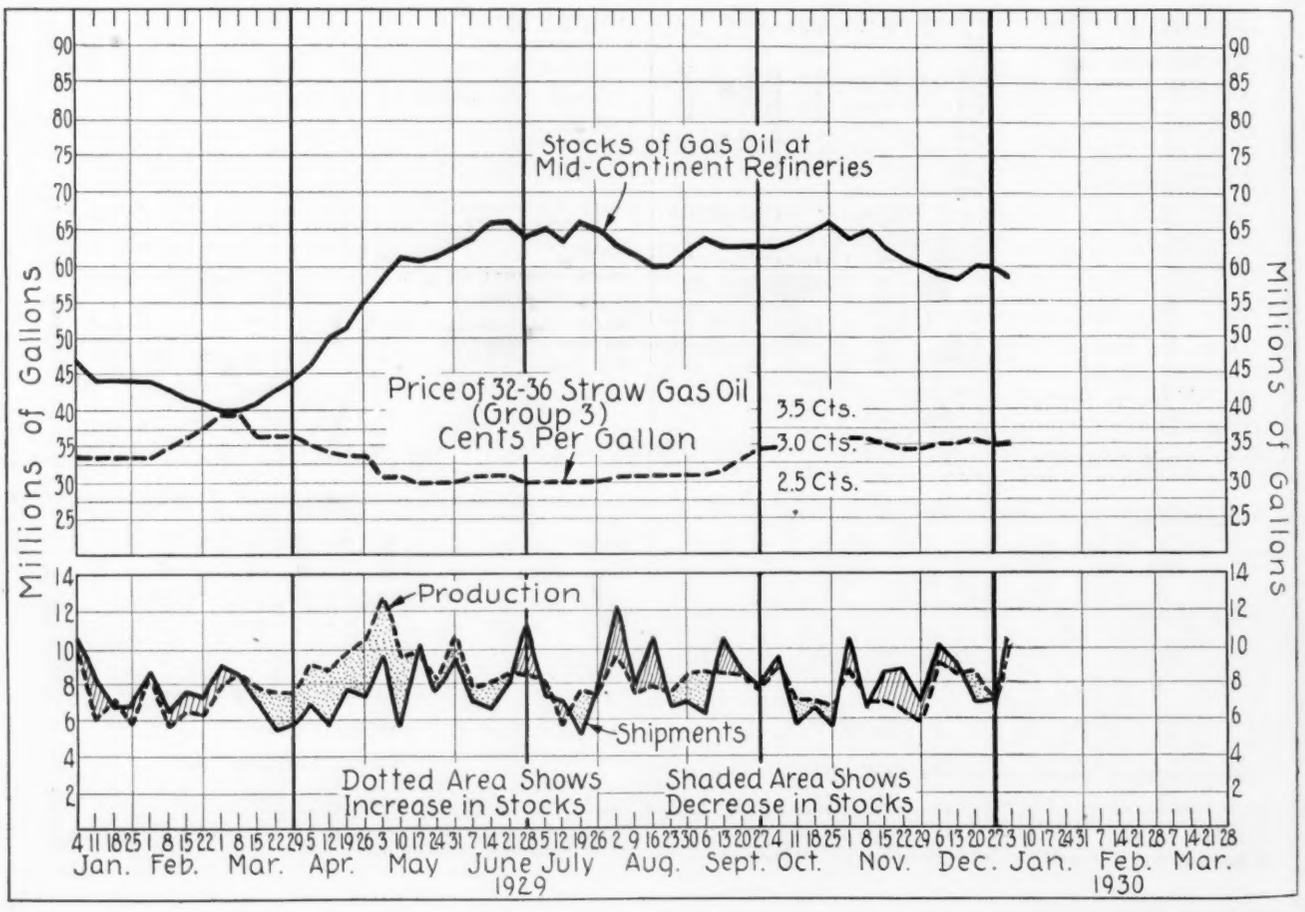
Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents Both Sales and Quotations.

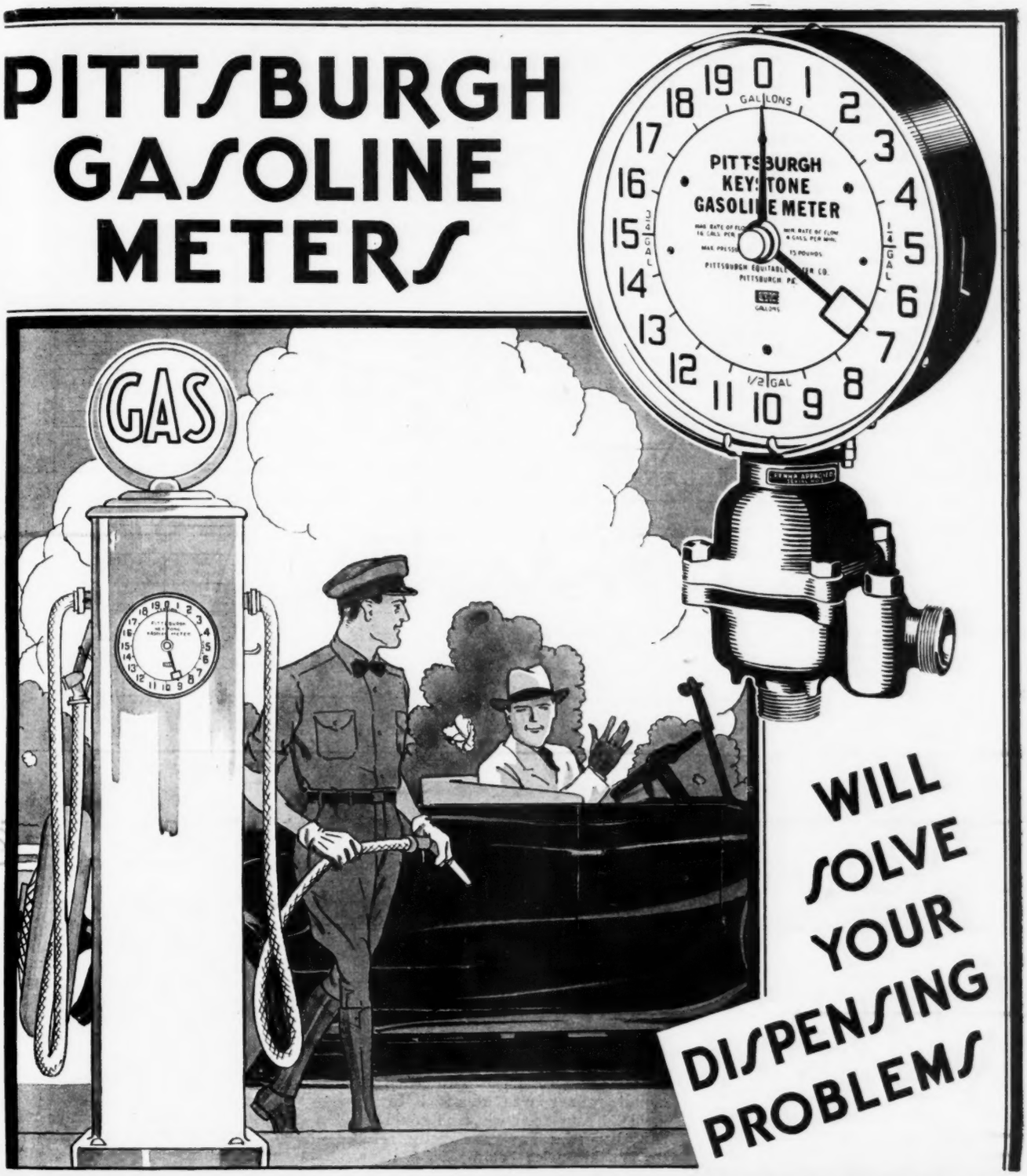
Barometer of Mid-Continent Refinery Market—Week Ending January 3

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallon
4.5 Cts.
4.0 Cts.
3.5 Cts.
3.0 Cts.
Dotted Area Shows Increase in Stocks
Shipments
Production
Shaded Area Shows Decrease in Stocks
Jan. Feb. Mar. Apr May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1929
1930


Millions of Gallons
Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Straw Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Dotted Area Shows Increase in Stocks
Shaded Area Shows Decrease in Stocks
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1929
1930

PITTSBURGH GASOLINE METERS



PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

NEW YORK CHICAGO COLUMBIA, S.C. LOS ANGELES DALLAS
TULSA SEATTLE KANSAS CITY SALT LAKE CITY

Barometer of Mid-Continent Refinery Market—Week Ending January 3

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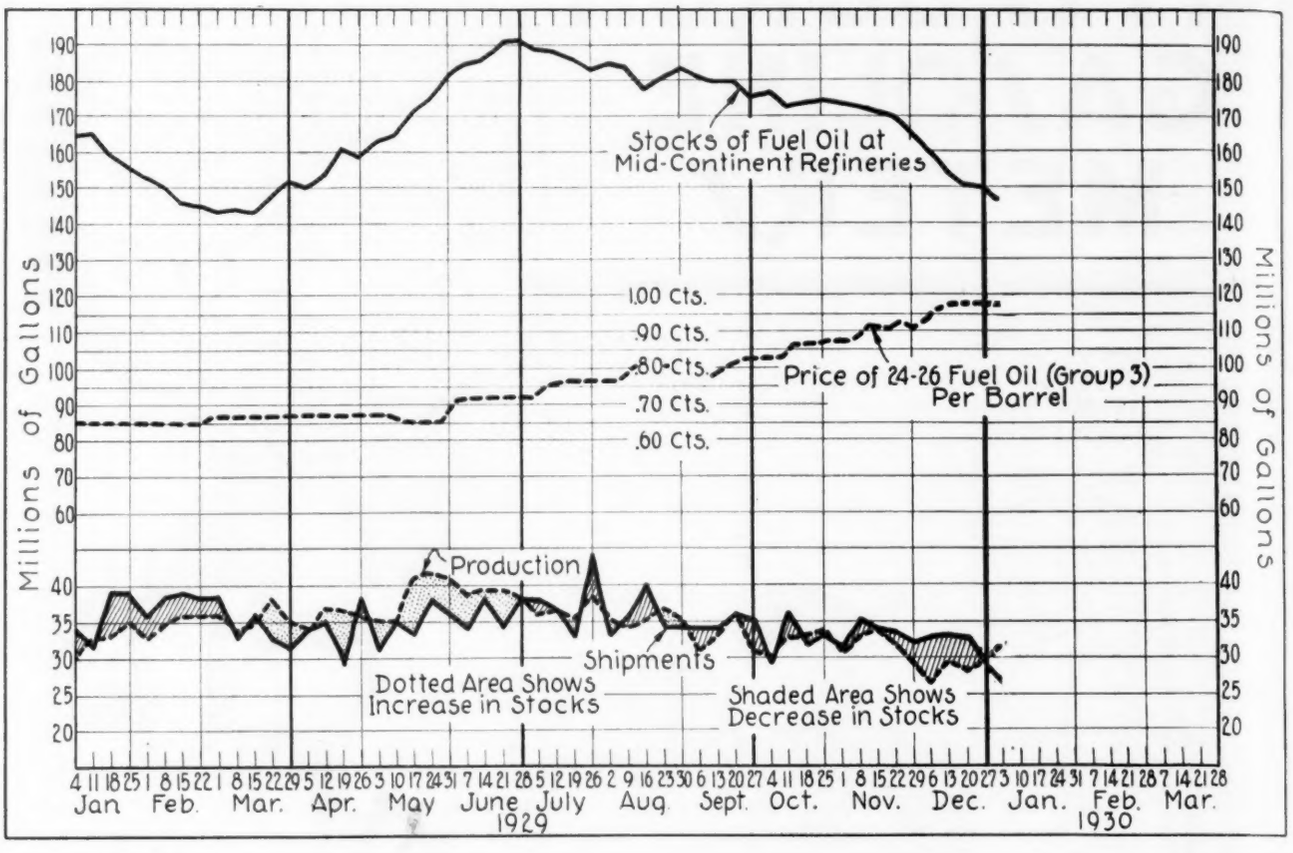


California Refinery Market

Distress Goods Threaten Western Markets

LOS ANGELES, Jan. 4

WHAT appears to be an over supply of motor fuel on the Pacific Coast has resulted in inactivity that threatens to spread to other commodities. Reports of sales of distress gasoline at very low figures were heard on all sides the past week as independent refiners attempted to relieve their crowded storage.

Notwithstanding this predicament, local exporters failed to report any sales of U. S. Motor even though goods were offered plentifully at around 6.25 cents. Several market observers believe that buying for coastwise shipment will pick up within two or three weeks and that gasoline will move at around 6 cents.

One broker reported that approximately 500,000 gallons of gasoline had moved within the state the past week at 8.50 cents although the majority of quotations for this class of shipments ranged from 9 to 10 cents. One small refiner was reported to have sold 10 cars for "what he could get." Another who has continually refused to cut his price below 9.50 cents was reported to be seeking business at from 8.50 cents up.

U. S. Motor gasoline for shipment out of the state sold during the past week at 7 to 7.75 cents with a few sales reported at 6.50 to 6.75 cents.

Unusually warm weather on the Pacific Coast has depressed the kerosene market to the extent that some refiners and dealers were quoting as low as 4.50 cents for this commodity with quotations ranging up to 5.50 cents.

The fuel oil market, which last week appeared to be on an upward trend, took a turn downward during the past week. Several spot sales of this commodity were reported at $0.40 per barrel.

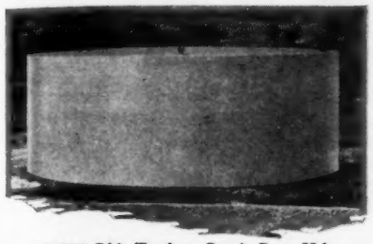
Other refinery products remained unchanged.

An increase in the number of cut-rate signs at service stations in and around Los Angeles has been causing major marketing company officials considerable worry. Gasoline can be purchased for as low as 14.50 cents a gallon although the price maintained at stations selling major company products is 19.50 cents.

One major company executive stated he did not think the present unrest in the retail market could be quieted until the supply had been reduced to the demand.

Up To Big Companies, Says Deterding

NEW YORK, Jan. 4.—"The outlook can be magnificent if all big companies will cooperate on a fair basis, thus practically guaranteeing consumers large supplies at moderate prices," Sir Henri W. A. Deterding, general manager director of the Royal Dutch-Shell group, cabled the Dow-Jones financial ticker service from St. Moritz in response to a request for his opinion of the 1930 outlook for our industry.



80,000 Bbl. Tank at Curtis Bay, Md., Equipped With Wiggins Roof

A "stop loss" order for marketing tanks

For your "stocks" of oil and gasoline a real "stop loss" order is one for Wiggins Roofs to cut evaporation losses to practically nothing. These roofs are installed on either old or new tanks, and soon pay for themselves out of savings.

When contemplating storage of 25,000 gallons or more, ask for our quotation on field erected tanks equipped with Wiggins Roofs.

Chicago Bridge & Iron Works

Chicago	2125 Old Colony Bldg.
New York	3145 Hudson Terminal
Cleveland	2206 Union Trust Bldg.
Detroit	1513 Lafayette Bldg.
Philadelphia	1614 Jefferson Bldg.
Boston	1516 Consolidated Gas Bldg.
Dallas	3339 Magnolia Bldg.
Atlanta	1050 Healey Bldg.
San Francisco	1060 Rialto Bldg.

Bottle Fold Type Folio

Your Name in Gold Free

Complete with Bottle Fold and Bottles *only* **$15.30**

364—A very complete and practical folio made from heavy 5-oz. black cowhide. 3¼-inch pocket that holds leather handled bottle fold. Contains sixteen 4-oz. plain bottles. One-inch pocket for stationery. Leather case containing six ½ oz. jars $3.25 additional.

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware, Kansas City, Mo.

Pennsylvania Market

Demand Low For All Products

CLEVELAND, Jan. 4.—Bright stock prices dropped to new low levels on the present move in western Pennsylvania refinery markets the past week. Steam refined stocks also eased off further but the general run of petroleum products showed little, if any, change.

Demand for all commodities was at low ebb throughout the week that merged the old and new years. The majority of traders reported they had expected very little interest from buyers the past week but were looking for a revival of activity next week.

Gasoline and kerosene prices, however, apparently had reached their resistance points. Despite a fairly large volume of surplus offerings of these commodities, prices remained generally unchanged.

With the turn of the new year, several of the larger manufacturers of bright stock again were active in the market. Demand for Pennsylvania bright stock the past few months has been such that most of the larger manufacturers have been continually sold up for anywhere from 30 to 50 days ahead, and therefore, they figured only nominally in the spot market.

Such still is the case with a few, but others are again offering spot goods at substantially lower prices. One manufacturer late the past week quoted 42 cents for No. 8 color, 40-50 pour test stock for spot or over-the-balance-of-January shipment. This compares with a minimum of 44 cents quoted for this oil in the week ended Dec. 28.

Buying prices for 600 filterable steam refined stock, as reported by bright stock manufacturers, were in agreement with sales reported by refiners. Several sales of this oil were reported at 23.50 cents with bright stock manufacturers asserting they had covered on their January requirements at this figure.

Less 45 water white kerosene was available in the spot market at 6 cents the past week although sellers in one or two districts still were offering small lots at this price as the week ended. Some refiners who had been quoting 6.125 cents advanced their prices to 6.25 cents. Attempts on the part of large buyers to shade 6 cents materially were unsuccessful, according to reports.

The United States shipped 217,000 barrels of gasoline, 143,000 barrels of kerosene and 10,500 barrels of lube oils to Algeria during the first six months of 1929. It also shipped some 7000 pounds of paraffin wax to that country.

COLOR

COLOR, as a merchandising help, has been boosting the sales of innumerable products. From motor conveyances to perambulators, from dainty sun-room fittings to kitchen tables, *Color* has given new life. In Wisconsin, a manufacturer of sanitary plumbing fixtures has created an everlasting niche for himself, simply by giving a touch of *Color*.

And now, the gasoline industry, having developed motor fuels of better properties, calls in *Color* to aid it in presenting its new product. For, *Color* distinguishes. *Color* impresses. *Color* attracts. *Color* invites.

That the public has accepted *Colored* gasoline is attested by the fact that, from the Atlantic to the Pacific, from far north of the Canadian line to the Mexican border, motorists are buying in increasing volume Blue Gasoline, Green Gasoline, Purple Gasoline, Violet Gasoline, as well as Red Gasoline. Yes, of different tints, for in the scale of colors there are varieties distinct enough to afford individualism for the most exacting. Dykem *Colors* are being widely used in this means of *Color*-branding.

Are you using *Color* to help you in the sale of your new motor fuels? If not, there is a *Dykem Color* that can also materially assist you.

Just write, telling us Colors you would like to see, and samples will be gladly sent you.

DYESTUFFS & CHEMICALS, INCORPORATED

11th & Monroe Sts. St. Louis, Mo.

You'll Sell More Oil Than Ever Before

Show your "drive-in" customers how they can save money buying in bulk. Sell them by the *drum* instead of by the gallon.

KWART KWICK
Home Oil Pump

Fits any drum or barrel—especially designed for the private user. Lowest-priced fool-proof home oil pump on the market. Works equally well with oil, gas, etc. Strongly built of brass, steel and cast iron—nothing to get out of order. Special quantity discounts to oil companies.

By distributing this pump with bulk sales, you can increase your oil volume 100% to 200%. Others are doing it. Mail coupon today for complete information and prices.

Kwart Kwick Dep't
VIKING PUMP CO.
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MAIL TODAY

Viking Pump Co., Dep't. B
Please send details and prices on your Kwart Kwick Pump.

Name.....

Town.....

State.....

Eastern Domestic Markets

Standard Change Unsettles Markets

Staff Special
NEW YORK, Jan. 4

EASTERN gasoline and kerosene markets were unsettled at the end of the last week due largely to the announcement made by the Standard Oil Co. of New Jersey of radical revisions in its retail marketing policies. The revision will affect tank wagon and service station prices throughout the Standard company's territory and may cause some changes to be made in tank car prices. Up to the close of business Jan. 4, however, prices in all districts were unchanged.

New York gasoline markets opened the week with spot business very quiet. Contract shipments were good but these in a great many cases fell off after the Standard's announcement late in the week. Many contract customers preferred to get along with what goods they had in storage as many believed the new plan would give them lower prices. In a number of instances this was true.

Warner Quinlan Co. was another to change its marketing plan, revising it to agree with the Jersey company, but only in the state of New Jersey. The company also operates in New York state. At the same time the company announced it would no longer market "Mileage" gasoline, its premium product, in New Jersey. This brand still will be marketed in New York, officials of the company said.

Neither of these two companies had made any changes in tank car prices although it was intimated there might be reductions when the new plan becomes effective on Jan. 6. In view of these possible changes, tank car business was virtually at a standstill at terminal points in the Standard's territory.

Prices in other districts were unchanged and in spite of the milder weather prevailing refiners generally reported business quiet. Fewer reports of price shading at Baltimore and in New England were heard but this was not taken as a criterion of an advancing market.

Eastern distributors of California gasoline made no changes in their tank car prices although there were rumors to the effect that goods were obtainable at substantially lower prices on the West coast. Several cargoes were reported offered this week at 8 cents, c.i.f. New York, which at the present cost of transporting it from the west coast, would figure under 6 cents f.o.b. California. One buyer was of the opinion that 5.50 cents could be done, f.o.b. California. Most California refiners were reported to have an ample supply of stocks and some distress goods were reported to be hanging over the market.

Milder weather acted adversely on kerosene and other burning oils although there were no changes in prices. The Standard company's new arrangement also had some effect on kerosene tank car prices. In a majority of instances tank wagon prices have been changed throughout its territory and there is a possibility that tank car prices will undergo a change.

Gas oil prices at New York were at 4.75 to 5 cents although several refiners who were quoting the top figure last week accepted orders this week at 4.75 cents. Furnace oil at Boston improved somewhat over last week and it was reported less goods were available at 6 cents.

Gulf Coast Markets

Domestic Light Oil Quotations Lower

Staff Special
NEW YORK, Jan. 4

FOREIGN buyers showed no interest in Gulf markets the past week. Prices for all commodities were generally unchanged although there were some lower quotations for cargoes of bunker C fuel oil. U. S. Motor gasoline and 41-43 prime white kerosene for domestic shipment were lower in price, according to several of the trade. Clean tanker rates were slightly lower in trans-oceanic trades.

Quotations for grade C bunker oil were made at $0.65 the past week, it was reported, although the majority of quotations ranged from $0.70 to $0.75. The lower priced commodity could be sold only to certain buyers, the trade said, because it was very low in gravity and could only be used in certain types of burners, principally those operating under high feed pressure. Because of its limited market, suppliers were offering it at a lower price than the general market.

Other grades of fuel were unchanged in price and demand was quiet. Low gravity gas oil with low sulfur content was available at 4 cents, a price which has been in effect for some weeks. Higher gravity goods were unchanged at 4 to 4.25 cents although some of the trade believed with firm offer either grade might be purchased at a better figure.

Domestic gasoline prices were lower by 0.25 to 0.375 cent in comparison with prices prevailing the previous week. Opinions of the trade were governed largely by California gasoline quotations of 8 cents, c.i.f. New York, which were made the past week. To compete with these quotations Gulf suppliers, the trade said, would be forced to quote around 7 cents, f.o.b. Texas and Louisiana terminals.

Sellers opinions of kerosene prices also were lower and the Gulf quotation of 6.125 to 6.375 cents, was based on prices in the Mid-Continent. Some traders believed both kerosene and gasoline prices might be shaded.

Trans-Atlantic rates for clean boats were off fractionally at the end of the week. Other rates were generally unchanged.

Gulf Lube Prices Down

HOUSTON, Jan. 6.—A flurry of competitive selling had greatly weakened the Gulf Coastal lubricant market over the turn of the year, prices of several grades reaching levels of 0.50 cent a gallon lower than previous prices.

Jobber sales were principally affected, the companies selling bulk cargo lots sticking more firmly to their export schedules than other interests who market to domestic destinations. Manufacturers professed to see improvement ahead after the moving of distress goods, which was blamed mainly for the present weakness in the market.

Joins Johnson Oil Refining Co.

CHICAGO, Jan. 2.—The Johnson Oil Refining Co., Chicago, announces the addition of R. A. Wooster, formerly with Pure Oil Co.; J. S. Adams; and Ed Cook, formerly with The Texas Corp., to their sales organization. Mr. Wooster will represent the Johnson company in Wisconsin and upper Michigan, Mr. Adams in Illinois and Iowa, and Mr. Cook in Indiana and lower Michigan.

Wax Markets

Low Bids Fail to Shake Prices

NEW YORK, Jan. 4.—Wax prices at the Gulf and at New York were unchanged at the end of the first week in 1930. Some distress white crude scale was offered in both markets toward the end of the week, but not in sufficient volume to affect general quotations. Fully refined goods were inactive all week at unchanged prices.

Brokers and refiners alike reported all markets quiet. White crude scale both at New York and New Orleans was offered, according to some reports, at 2.80 to 2.90 cents, but the offers were small in volume and were not believed representative of the market. Three cents could be done readily at the Gulf while that price at New York applied largely to goods for nearby shipment.

Inquiries for white crude scale were reported good by a number of the trade but the bids were much lower than refiners cared to accept. One seller around the middle of the week reported he had orders on his desks from abroad, principally from the United Kingdom, which totaled about 500 tons for immediate shipment and over the next two months. The highest bid in the lot, he said, was 2.90 cents, f.a.s. New York. None of the orders was accepted.

Other sellers toward the end of the week asserted orders were more numerous for export. The majority of these also originated in the United Kingdom, some of them bidding prices on a c.i.f. basis which figured under 3 cents, New York.

There was one report that 125-127 A.m.p. was available under 4 cents at the Gulf. The wax was being offered by brokers, it was said, and only for shipment during January. Trading on all grades of fully refined wax was virtually at a standstill, however.

Match wax was available at 3.75 to 4 cents in hardwood barrels, but not in large quantities. While there were no sales of semi-refined wax reported, a broker asserted he was in position to deliver that commodity from the Gulf at the same prices as those prevailing for white crude scale.

An unconfirmed report was heard that Polish refiners, in cooperating with other wax manufacturers, had agreed to limit their shipments into the United Kingdom during 1930 to 5,000 tons. There were no comparative figures available but several of the trade were of the opinion that Polish shipments last year were much greater. Generally, it was agreed that such a policy would be very beneficial to American refiners.

THE DAYTON MODEL "G-8"

TIMKEN BEARING EQUIPPED

This unit—air compressor, tank and hose is the one selected by the great majority of filling stations where a supply of 8 cubic feet of air per minute is sufficient to cover every need. This amount of air is ample for the following purposes:—

Paint spraying—Greasing rack—
Washing equipment—Gas dispensing—
And all needed tire inflation—

THE MODEL G-8 "DAYTON"

Has 2 H.P. Motor—

60 gallon tank—

150 lbs. pressure—

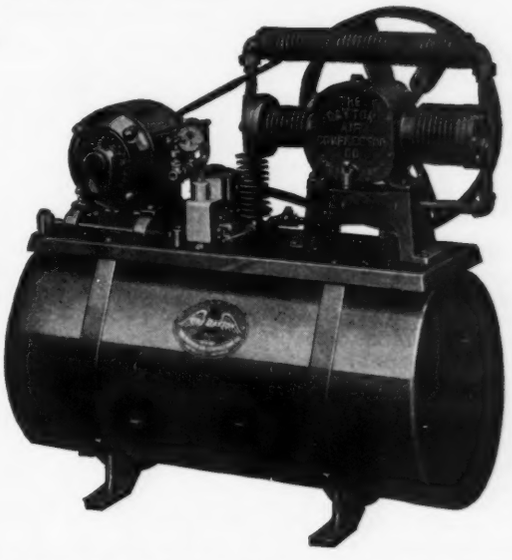
Unique Construction in this Two-Stage Model.

No connecting rods—

No crosshead pins—

No cotter pins—

No bolts—



Nothing to break loose and score the cylinder. Nothing complicated—no trouble-makers in this Model. The best materials, the best bearings, the best of workmanship. Built to last 20 years and do its work every day.

We build only compressors and we build them better, and for less than average price. Why? Because we are compressor specialists which insures lower overhead and lower production costs.

Get our new catalog showing 26 models with capacities from 1 C. F. to 52 C. F.

DAYTON AIR COMPRESSORS

425 Valley St. Dayton, Ohio

STEEL DRUM ACCESSORIES CORPORATION

Buffalo, New York

Specialists in Drum Faucets and Gates

Specify
the "BLUE" *Gate*
and our various types of *DRUM FAUCETS*
for all purposes.
We solicit your inquiries for detail information.

Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	Jan. 6	Dec. 30	Dec. 23
New York harbor	8.75	8.75	8.75
Portland district	*10.75	*10.75	*10.75
Boston district	*10.25	*10.25	*10.25
Providence district	*10.25	*10.25	*10.25
Philadelphia district	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
Baltimore district	9.00	9.00	9.00
Norfolk district	9.00	9.00	9.00
Charleston district	9.00	9.00	9.00
Savannah district	9.00	9.00	9.00
Jacksonville district	9.00	9.00	9.00
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	9.00	9.00	9.00
Philadelphia district	9.00	9.00	9.00
Baltimore district	9.00	9.00	9.00
WATER WHITE KEROSENE			
New York harbor	7.75	7.75	7.75
Philadelphia district	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
Baltimore district	7.75	7.75	7.75
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Boston district	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
GRADE C BUNKER OIL†			
New York Harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
.885-.890 s.g. 320-330 vis.	$0.82 –$0.97	$0.82 –$0.97	$0.82 –$0.97
.870-.875 s.g. 145-155 vis.	$0.74 –$0.89	$0.74 –$0.89	$0.74 –$0.89

Note: Above gasoline prices do not include inspection tax levied in some states.
*Minimum delivered. †Lighterage 5c per bbl. additional.

New York Export Market

(Lubricating oils are per gal. in bbls.)

	Jan. 6	Dec. 30	Dec. 23
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	49.00 –51.00	50.00 –53.00	51.00 –53.00
600 D filtered	41.50 –44.00	42.00 –44.00	44.00 –46.00
600 Warren E filtered	36.00 –38.00	36.00 –38.00	38.00 –41.00
600 s.r. unfiltered	30.50 –32.00	32.00 –34.00	32.50 –34.00
650 s.r. unfiltered	37.00 –40.00	37.00 –40.00	37.50 –40.00
600 flash, s.r.	39.00 –42.00	39.00 –42.00	40.00 –42.00
630 flash, s.r.	42.00 –44.00	42.00 –44.00	42.50 –45.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –20.00	18.00 –20.00
200 vis. No. 6 color	16.00 –17.00	16.00 –17.00	16.00 –17.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	22.00 –24.00	22.00 –24.00	22.00 –24.00
180 vis. No. 3¼ color	18.00 –20.00	18.00 –20.00	18.00 –20.00
100 vis. No. 2¼ color	16.00	16.00	16.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	30.00 –32.00	30.00 –32.00	30.00 –32.00
500 vis. No. 6½ color	28.00 –29.00	28.00 –29.00	28.00 –29.00
400 vis. No. 7¼ color	26.00 –27.00	26.00 –27.00	26.00 –27.00
300 vis. No. 6 color	23.00 –24.00	23.00 –24.00	23.00 –24.00
200 vis. No. 6 color	21.00 –22.00	21.00 –22.00	21.00 –22.00
MEDICINAL OILS			
.875-.880 s.g.	$0.76 –$0.91	$0.76 –$0.91	$0.76 –$0.91
.860-.865 s.g.	$0.58 –$0.73	$0.58 –$0.73	$0.58 –$0.73
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	3.00 – 3.125	3.00 – 3.125	3.125
124-126 A.m.p.	3.00 – 3.125	3.00 – 3.125	3.125
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125
125-127 A.m.p.	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
128-130 A.m.p.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
130-132 A.m.p.	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
133-135 A.m.p.	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
135-137 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.875– 3.00	2.875– 3.00	3.00 – 3.125

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	Jan. 6	Dec. 30	Dec. 23
U. S. Motor	8.50	8.50	8.50
60-62, 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.05	$2.05	$2.00
KEROSENE			
44 water white	8.00	8.00	8.00
41-43 prime white	7.00	7.00	7.00
Water white, cases (cargoes)	$1.85	$1.85	$1.80
Prime white, cases (cargoes)	$1.75	$1.75	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	4.00
*30 plus translucent gas oil	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Grade C bunker oil	$0.95	$0.95	$0.95
Grade C bunker oil, cargoes	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
*Less than ½ of 1% sulphur.			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.70 –$0.80	$0.70 –$0.80	$0.70 –$0.80
Grade C bunker oil for bunkering purposes, taxes paid	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F. cold test 0. Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
200 vis. No. 3 unfiltered pale	8.25 – 9.00	8.25 – 9.00	8.25 – 9.00
300 vis. No. 3 unfiltered pale	9.75 –10.00	9.75 –10.00	9.75 –10.00
500 vis. No. 3½ unfiltered pale	11.25 –11.50	11.25 –11.50	11.25 –11.50
750 vis. No. 4 unfiltered pale	12.50 –13.00	12.50 –13.00	12.50 –13.00
1200 vis. No. 5 unfiltered pale	16.25 –16.50	16.25 –16.50	16.25 –16.50
200 vis. No. 5-6 red oil	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
300 vis. No. 5-6 red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
500 vis. No. 5-6 red oil	9.25 –10.00	9.25 –10.00	9.25 –10.00
750 vis. No. 5-6 red oil	11.00 –12.00	11.00 –12.00	11.00 –12.00
1200 vis. No. 5-6 red oil	15.00 –16.00	15.00 –16.00	15.00 –16.00

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	Jan. 6	Dec. 30	Dec. 23
U. S. Motor gasoline	7.00 – 7.125	7.25 – 7.50	7.25 – 7.50
41-43 w.w. kerosene	6.125– 6.375	6.375– 6.50	6.375– 6.50
*26-32 translucent gas oil	3.875– 4.125	3.875– 4.125	3.875– 4.125
*Less than ½ of 1% sulphur.			

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Jan. 6	Dec. 30	Dec. 23
Gasoline, U. S. Motor, 53-55 Gravity	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00
Gasoline, U. S. Motor-blends and special cuts	7.25 –10.00	7.25 –10.00	7.25 –10.00
Gas Oil, 30-34, per barrel	$0.85 –$1.00	$0.85 –$1.00	$0.80 –$1.00
Diesel Oil, 27 plus, per barrel	$0.80 –$1.00	$0.80 –$1.00	$0.80 –$1.00
Bunker oil, 14-18, per barrel	$0.65 –$0.85	$0.65 –$0.85	$0.65 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	Jan. 6 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	35	44–45
Gulf to U. K. or Continental ports*	22-23	30–31
North Atlantic to U. K. or Continental ports*	20-21	27/6–28/6
Calif. to North Atlantic ports (not E. of N. Y.)	$0.75-$0.80	$0.85–$0.90
Gulf to North Atlantic ports (not E. of N. Y.)**	27.5	32-36

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.
**Venezuela loading same rate. For Tampico 3c per bbl. additional.

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Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t. w. and s. s. markets for a whole year, arranged for quick reference)

These Prices in Effect Jan. 6, 1930, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Atlantic City, N. J.	14.5	2	16.5	18.5	13.5
Newark, N. J.	13.5	2	15.5	17.5	12.5
Annapolis	14	4	18	20	13
Baltimore, Md	13.2	4	17.2	19.2	10.5
Cumberland, Md.	15	4	19	21	14
Washington, D. C.	13.7	2	15.7	17.7	12.7
Danville, Va.	14.8	5	19.8	21.8	13.8
Norfolk, Va.	13.3	5	18.3	20.3	11
Richmond, Va.	13.7	5	18.7	20.7	12.7
Roanoke, Va.	15	5	20	22	14
Petersburg, Va.	14.3	5	19.3	21.3	13.3
Charleston, W. Va.	14.5	4	18.5	20.5	13.5
Keyser, W. Va.	15.1	4	19.1	21.1	13.1
Parkersburg, W. Va.	13.2	4	17.2	19.2	12.2
Wheeling, W. Va.	14.4	4	18.4	20.4	13.4
Charlotte, N. Carolina.	15.3	5	20.3	22.3	14.3
Hickory, N. C.	15.8	5	20.8	22.8	14.8
Mt. Airy, N. C.	15.5	5	20.5	22.5	14.5
Salisbury, N. C.	15.7	5	20.7	22.7	14.7
Charleston, S. C.	13.3	6	19.3	21.3	12.3
Columbia, S. C.	15.2	6	21.2	23.3	14.2

Note: 2c per gallon discount off s. s. price of gasoline to dealers and commercial consumers thru S. O. New Jersey territory.

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	15	4	19	22	14
Cheyenne, Wyo.	16.5	4	20.5	23.5	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah.	17.5	3½	21	24	17
Boise, Ida.	19.5	4	23.5	26.5	19
Twin Falls, Ida.	19.5	4	23.5	27.5	19
Albuquerque, N. M.	15	5	20	22	17

S. O. CALIFORNIA

Phoenix, Ariz.	15.5	4	19.5	23.5	20
Los Angeles, Cal.	16.5	3	19.5	22.5	15.5
Fresno, Cal.	17	3	20	23	17
San Francisco, Cal.	17	3	20	23	15.5
Reno, Nev.	21	4	25	28	19
Portland, Ore.	17.5	4	21.5	24.5	16.5
Seattle, Wash.	17.5	3	20.5	23.5	16.5
Spokane, Wash.	21.5	3	24.5	27.5	20.5
Tacoma, Wash.	17.5	3	20.5	23.5	16.5

Note: 4c per gal. discount to dealers off t.w. price of gasoline to customers taking tank truck delivery, thru S. O. California territory except 1c discount at Phoenix to dealers only.

S. O. LOUISIANA

Little Rock, Ark.	13	5	18	20	13
Alexandria, La.	‡15	4	‡19	21	†16
Baton Rouge, La.	12	4	16	18	†14.5
Lake Charles, La.	††16.5	4	††20.5	††22.5	†16
New Orleans, La.	*11	4	*15	15	†13
Shreveport, La.	12	4	16	18	†15
Lafayette, La.	**16	4	**20	**22	†14
Bristol, Tenn.	14	5	19	20	14
Chattanooga, Tenn.	15	5	20	22	13
Knoxville, Tenn.	15	5	20	22	16
Nashville, Tenn.	14	5	19	19	16
Memphis, Tenn.	13	5	18	20	12.5

Note: 2c per gallon discount off t.w. price of gasoline to dealers thru S. O. Louisiana territory.

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax.

‡Alexandria gasoline prices include 1c parish tax.

S. O. KENTUCKY

Ashland, Ky.	15	5	20	21	15.5
Catlettsburg, Ky.	15	5	20	21	15.5
Lexington, Ky.	15	5	20	22	15.5
Louisville, Ky.	16	5	21	23	13
Covington, Ky.	14	5	19	20	15.5
Clarksdale, Miss.	13	5	18	20	12.5
Gulfport, Miss.††	17.5	5	22.5	24.5	14
Jackson, Miss.	14	5	19	21	13
Natchez, Miss.	15.5	5	20.5	20.5	14
Vicksburg, Miss.	15.5	5	20.5	22.5	14
Birmingham, Ala.	13	4	17	19	13
Mobile, Ala.‡	14	4	18	20	15
Montgomery, Ala.*	15	4	19	21	16.5
Atlanta, Ga.	14	6	20	22	†16.5
Augusta, Ga.	12	6	18	20	†15.5
Macon, Ga.	15	6	21	23	†16.5
Savannah, Ga.	16	6	22	24	†15.5
Jacksonville, Fla.	16	6	22	24	14.5
Miami, Fla.	17	6	23	25	15.5

Latest Changes in Tank Wagon Prices

Gasoline Changes

S. O. New Jersey—A new price schedule was put into effect by the Standard of New Jersey, **Jan. 6.** For complete details, see first part of this issue. Prices in the tank wagon table have been changed to reflect the changes, which amount to reductions of as much as 1.8c up to advance of 3c in the points quoted in NATIONAL PETROLEUM NEWS. The Standard now posts only a service station price, but this publication is showing what the net tank wagon would be, the state tax, and the total tank wagon, as well as the service station price. The dealer discount of 2c is figured, therefor, off the service station price.

S. O. Louisiana—T.w. and s.s. cut 1½c Shreveport, to 16c and 18c respectively, including 4c tax, **Dec. 30.**

T.w. and s.s. cut 2c, Bristol, to 19c and 20c respectively, including 5c tax, **Jan. 1.**

S. O. California—T.w. and s.s. up 1c, Portland, to 21.5c and 24.5c respectively, due to tax increase to 4c, **Jan. 1.**

Prices at Phoenix are corrected in this issue. T.w. and s.s. up 2c, Aug. 14, to 20c and 24c, and cut ½c, Oct. 1, to 19.5c and 23.5c.

Kerosene Changes

S. O. New Jersey—Kerosene cut 1½c Baltimore, to 10.50c, t.w., **Dec. 27.**

S. O. Louisiana—Kerosene cut 1c, Chattanooga, to 13c t.w., **Dec. 27.**

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Tampa, Fla.	14	6	20	22	14.5
Pensacola, Fla.**	12	6	18	20	14.5

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. NEBRASKA

Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	14	3	17	18	13
Decatur, Ill.	16.2	3	19.2	20.2	13.1
E. St. Louis, Ill.	12.4	3	15.4	15.4	12.2
Joliet, Ill.	16.4	3	19.4	20.4	13.3
Peoria, Ill.	16.2	3	19.2	20.2	13.1
Quincy, Ill.	16.2	3	19.2	20.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	19.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Cross, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5	3	20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.9	2	18.9	19.9	11.6
St. Joseph, Mo.	†16.5	2	18.5	19.5	12.2
Fargo, N. D.	18.9	3	21.9	22.9	15.9
Grand Forks, N. D.	19.2	3	22.2	23.2	16.2
Minot, N. D.	18.9	3	21.9	22.9	15.9
Pierre, S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	4	18.5	19.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month.

In Chicago and vicinity, these discounts apply. Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Ohio state-wide	14	4	18	19	12
Columbiana, Mercer, Allen, Darke and Hancock Counties:	13	4	17	17	12

Note: Discount to dealers and commercial accounts generally thru Ohio is 2c per gal. off t.w. price with some exceptions. In counties where prices are below normal, discount is 3c per gal. off t.w. price.

MAGNOLIA PETROLEUM

Muskogee, Okla.	11	4	15	17	10
Oklahoma City	13	4	17	20	10
Tulsa, Okla.	11	4	15	19	10
Fort Smith, Ark.†	11	†4	15	17	12
Little Rock, Ark.	13	5	18	20	13
Texarkana, Ark.*	13	*4	17	19	12
Dallas, Tex.	13	4	17	21	12
Fort Worth, Tex.	13	4	17	20	12
Houston, Tex.	11	4	15	19	11
San Antonio, Tex.	11	4	15	19	11
El Paso, Tex.	12	4	16	20	16

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	14	2	16	18	15
*Borough of Richmond	15	2	17	19	15
Albany, N. Y.	16	2	18	20	15
Buffalo, N. Y.	14	2	16	18	14
Rochester, N. Y.	14	2	16	18	13
Syracuse, N. Y.	16	2	18	20	15
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	20	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	15

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Florida, 1/8c on both; Georgia, 1/10c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/50c to 1/2c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa, 7/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above state or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect Jan. 6, 1930

ATLANTIC REFINING

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Pittsburgh, Pa.	15	*	15	21	13
Philadelphia, Pa.	15	*	15	21	13
Allentown, Pa.	15	*	15	21	13
Erie, Pa.	15	*	15	19	13
Scranton, Pa.	15	*	15	21	13
Altoona, Pa.	15	*	15	21	13
Williamsport, Pa.	14	*	14	18	13
Dover, Del.	15	3	18	20	13
Wilmington, Del.	15	3	18	20	13
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	16	2	18	20	15
Fall River, Mass.	16	2	18	20	13
Providence, R. I.	16	2	18	20	13
Hartford, Conn.	16	2	18	20	15
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	14	2	16	18	13
Camden, N. J.	15	2	17	19	13
Trenton, N. J.	15	2	17	19	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	15	4	19	21	12
Hagerstown, Md.	14	4	18	18	12
Richmond, Va.	15	5	20	22	13
Wilmington, N. C.	15	5	20	22	13
Brunswick, Ga.	16	6	22	24	**16.5
Jacksonville, Fla.	16	6	22	24	14.5

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers; discount to commercial accounts under contract for one year in accordance with Code of Ethics.

*4-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.7	17
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	**20.7	**22.2	**24
St. Louis	15.6	17.1	18.9
New York		16	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)

New York harbor	11.50–12.00
Philadelphia district	11.50–12.00

Tank Wagon or Steel Barrels

New York City	16–18
New England	18–19
New Jersey	16–18
Pennsylvania	16–19

Note: 2c off above t.w. prices to large buyers in some instances.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	T.W.	S.S.	Oil T.W.
ONTARIO					
Toronto	19.5	5	24.5	28	20.5
Ottawa	19.5	5	24.5	28	20.5
Cochrane	24.5	5	29.5	..	25.5
Ft. William	22.5	5	27.5	31	22.5
Border Cities, including Windsor	18.5	5	23.5	27	19.5
MANITOBA					
Winnipeg	21.5	3	24.5	28	21.5
SASKATCHEWAN					
Regina	26	3	29	33	26
ALBERTA					
Edmonton	27.5	5	32.5	36	27.5
Calgary	23.5	5	28.5	32	23.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	20.5	5	25.5	29	21.5
Quebec City	21.5	5	26.5	30	22.5
Three Rivers	21.5	5	26.5	30	22.5
NEW BRUNSWICK					
St. John	22	5	27	31	24
Moncton	22	5	27	31	24
NOVA SCOTIA					
Halifax	22	5	27	31	24
Sydney	22	5	27	31	24
PRINCE EDWARD ISLAND					
Charlottetown	22	5	27	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Skilled Supervision
Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
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Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

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"Fortify for Fire Fighting"
THE FAMOUS PYRENE 1 QUART
PYRENE 1 GAL. PRESSURE TYPE
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PHOMENE FOAM TYPE
A Fire Fighting Unit for Every Hazard
Pyrene
KILLS FIRE SAVES LIFE
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MANY large oil companies avoid contamination and the introduction of foreign matter into oil by cleaning returned drums with a solution of an Oakite material, which clears all trace of dirt and oil-film from used drums, leaving them thoroughly clean inside and out. Let our nearest Service Man explain how Oakite materials and methods will help you to do this and many other cleaning jobs at remarkable savings in time and effort. Write us and he will call.

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PALE — RED OILS
WAX — PETROLATUM
TECHNICAL WHITE OILS
WHITE MINERAL OILS

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General Office—Oil City, Pa.

District Offices at
New York, Philadelphia, Boston, Chicago
London — Hamburg

Cable Address—JASBER Oil City *All Codes*

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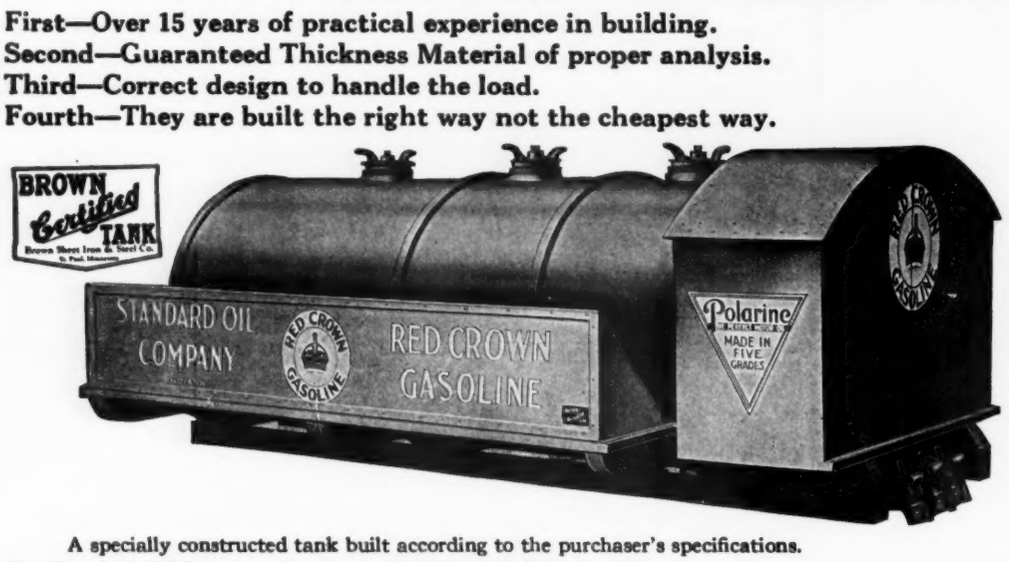
First—Over 15 years of practical experience in building.
Second—Guaranteed Thickness Material of proper analysis.
Third—Correct design to handle the load.
Fourth—They are built the right way not the cheapest way.



Through many years of experience in building oil equipment, we know your problems in every detail.

Our exceptional manufacturing facilities enable us to give the best kind of service.

A specially constructed tank built according to the purchaser's specifications.
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— — — — — — — — *Tear out this coupon and mail it to-day* — — — — — — — —

We are interested in your tanks. Send your catalog and prices.

Make of Truck.....Year.....We operate.....(number).....Tank Trucks.

Other equipment on which you may send prices.....

Name.....Address.....

Crude Oil Prices (in Effect Jan. 6, 1930)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(All Penna. Crude prices effective Oct. 1, 1929)

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District) *$3.05

Bradford District Oil in National Transit Lines (Bradford District) *3.05

Penna. Grade Oil in National Transit Lines (Other Pennsylvania) *3.05

Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) 3.00

Penna. Grade Oil in Eureka Pipe Lines (West Virginia) 2.90

Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district) 2.70

Wayne district crude in Cumberland lines (West Virginia) 1.42

Corning Grade in Buckeye Pipe Lines (Ohio) (Effective Dec. 6, 1929) 1.80

Corning, O., heavy grade (Effective Dec. 6, 1929) 1.70

Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective Nov. 12, 1929) 1.55

Somerset Oil in Eureka Pipe Lines (Effective Nov. 12, 1929) 1.29

Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 29, 1929) $0.60

***Oil run prior to July 1, 1929 is $3.00 per bbl.**

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines (Effective Oct. 7, 1929) $1.70

MICHIGAN

(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon):

32-32.9	$1.25	39-39.9	$1.60
33-33.9	1.30	40-40.9	1.65
34-34.9	1.35	41-41.9	1.70
35-35.9	1.40	42-42.9	1.75
36-36.9	1.45	43-43.9	1.80
37-37.9	1.50	44 and above	1.85
38-38.9	1.55		

(Posted by Pure Oil Co.)

Midland, Midland County $1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.68

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia $2.20

Oil Springs 2.27

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	$0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see.

Iatan district	$0.93
Corsicana heavy	0.80
Luling	0.90
Mirando	0.90
Darst Creek, 60° F. gravity	1.25

Carter Oil Co.

(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Winkler, Crane, Upton, Crockett, and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.70	31-31.9	$0.98
25-25.9	0.74	32-32.9	1.02
26-26.9	0.78	33-33.9	1.06
27-27.9	0.82	34-34.9	1.10
28-28.9	0.86	35-35.9	1.14
29-29.9	0.90	36 and above	1.18
30-30.9	0.94		

Howard and Glasscock counties:

Effective Nov. 27, 1929

Below 25	$0.70	31-31.9	$0.90
25-25.9	0.74	32-32.9	0.92
26-26.9	0.78	33-33.9	0.94
27-27.9	0.82	34-34.9	0.96
28-28.9	0.84	35-35.9	0.98
29-29.9	0.86	36 and above	1.00
30-30.9	0.88		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler, and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell.

SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective May 20, 1929

Mirando	$0.90
Salt Flat	1.25

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto and **Cotton Valley.

Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24			$0.85
do	24 and above		1.00
Bellevue			1.30
*Urania, La			1.10
†East El Dorado			0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-El Dorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Crude Price Changes

DALLAS—On Jan. 2 Magnolia Petroleum Co. posted Darst Creek, southwest Texas, crude testing 60 degrees gravity, at $1.25 per barrel.

Protests Helium Gas Purchases

WASHINGTON, D. C.—Protest against the Army and Navy buying all helium gas from the government plant rather than privately owned plants was made to President Hoover by Representative Thatcher, Louisville, Ky. He desired to have the government purchase part of its requirements of 5,000,000 to 7,000,000 cubic feet of helium gas from the privately owned plants at Louisville, Ky., Rexter, Kans., and Thatcher, Col., instead of all gas at the Bureau of Mines plant at Amarillo, Texas.

Texas Jobbers' New Year's Greeting

CLEVELAND, Jan. 3.—"The marketer who will survive is the one who knows his operating cost, and who gets a fair profit for his effort and on his investment. It is far better to operate four filling stations equipped to give the public the maximum of service and quality products than to have ten outlets, the majority of which are a disgrace to any reputable jobber."

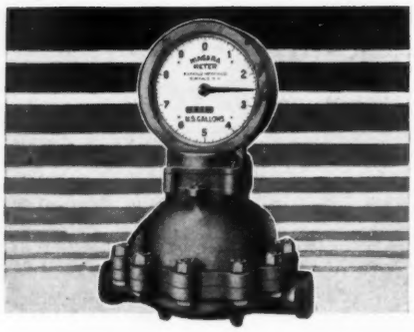
This is the New Year's Message and Greetings which James B. Russ, president of the Texas Petroleum Marketers Association, sent to members and friends of the association. In a pocket size pamphlet Mr. Russ reviewed the accomplishments of the association and urged the support of the Code of Marketing Practices both in letter and spirit.

Correction

The price of 6.625 to 7.25 cents in the comparative price table for Indiana-Illinois as of Dec. 30, as published on page 80 of the Jan. 1 issue of NATIONAL PETROLEUM NEWS, was in error. Correct price on that date was 6.625 to 7 cents.

In the Pacific export market in the seaboard market tables, price of 30-34 gas oil was $0.80 to $1.00 per barrel on Dec. 23, instead of $0.85 to $1.00 as published in the issues of Dec. 25 and Jan. 1.

The Linde Air Products Co. announces the opening of an oxygen plant at Portland, Ore. A. D. Davis is superintendent, and D. F. Fox, whose headquarters are at San Francisco, is district superintendent.



Measure by METER

ACCURACY is of prime importance in measuring gasoline or oil.

At every stage in the refining, marketing and retailing of gasoline, kerosene, fuel oil or other liquids, Niagara Meters have been used for years under all conditions, for accurate, automatic measurement.

Send for your copy of the new Niagara Meter catalogue. It presents in an intelligent way—the complete story of the meter. Yours for the asking. Address

BUFFALO METER CO.
2889 Main St. Buffalo, N. Y.

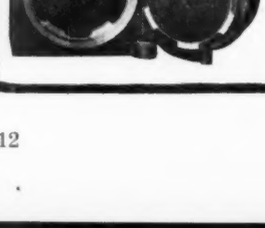
Niagara Oil Meters

The Constant Guardians of Liquid Profits

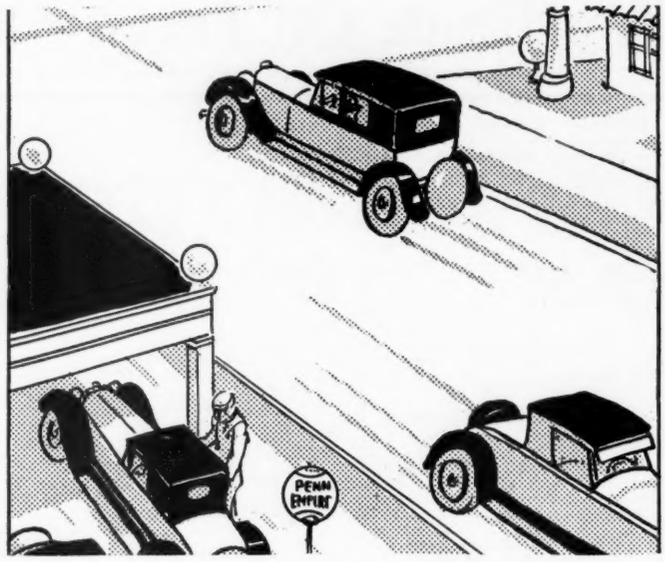
Put Your Cash where he can't get it!

The inner door or "hold up" partition shown on the chest illustrated below will enable the filling station operator to place all money, except enough to make change, thru the slot where the thief cannot get it. As the station operator does not have the combination, the hold-up man cannot force him to surrender it.

YORK SAFE & LOCK CO.
YORK, PA.



The York Round Door Chest with "hold up" partition.



Does Competition Help or Hurt Your Business?

Competition throws the preponderance of preference to the station that has the most to offer in the way of superior products and intelligent, helpful service.

There are thousands of filling stations all over the United States, but not all of these stations are serving products of an unvarying high quality. Therefore, every time an automobile owner buys an oil or grease, or a gasoline which is unsatisfactory he is being "sold" more thoroughly on some *other* station where he knows the products are of the highest quality.

Penn-Empire oils because they are completely dewaxed by Sharples Process and refined from pure Pennsylvania crude oil have an EXTREMELY LOW COLD TEST, and are helping many filling station companies to build up their business steadily during the cold winter months.

EMPIRE OIL WORKS, INC. OIL CITY, PA.
Refineries: Reno, Pa. Tidioute, Pa.

PENN-EMPIRE

100% Pure Pennsylvania
MOTOR OIL

"Speed with Safety"

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Send for these OIL PRICE HANDBOOKS *now*, before they are all gone.

National Petroleum News, 735 Penton Bldg., Cleveland, Ohio

Crude Oil Prices (in Effect Jan. 6, 1930)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A	$1.30	*Grades B	$1.15
†Grades B (light crude):			
35–35.9	$1.49	40–40.9	$1.69
36–36.9	1.53	41–41.9	1.73
37–37.9	1.57	42–42.9	1.77
38–38.9	1.61	43–43.9	1.81
39–39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

†The Texas Co.'s gravity and price schedule on all oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29–29.9	$1.10
" " 30–30.9	1.15
" " 31–31.9	1.20
" " 32–32.9	1.25
" " 33–33.9	1.30
" " 34–34.9	1.35
" " 35–35.9	1.40
" " 36–36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Bid Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont	1.65
Sunburst, Mont	1.75
‡Hogback, N. Mex	1.70
Artesia, N. Mex	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Alamitos Heights Huntington Beach Signal Hill Seal Beach	Inglewood Torrance	Olinda-Brea Canon †Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14–14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	.....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15–15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16–16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17–17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18–18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19–19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20–20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21–21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22–22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23–23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24–24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25–25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26–26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27–27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28–28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29–29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30–30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31–31.9	1.30	....	1.30	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32–32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33–33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	1.40	1.22	....	....	....	....	1.34
34–34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35–35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	1.52	1.30	....	....	....	....	....
36–36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37–37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38–38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39–39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40–40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41–41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42–42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Richfield posted only to 30-30.9 at $1.25.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Jan. 6	Dec. 30
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$1.00–1.05	$1.00–1.05
Caustic Soda 76% solid, cwt..	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of cwt.	$3.10–4.00	$3.10–4.00
Liquid Chlorine, tank cars, wks. lb.	3.50–5.00	3.50–5.00

Compounders' Supplies

	Jan. 6	Dec. 30
Vegetable Oils		
Linseed carloads, spot lb.	14.60	14.60
Tanks, spot	13.80	13.80
Soya Bean, Tanks, coast, lb.	9.50	9.50
Oleic Acid		
Distilled, tanks lb.	9.75	9.75
Distilled, bbls. lb.	10.625	10.625
Saponified, tanks lb.	9.75	9.75
Saponified, bbls. lb.	10.625	10.625
Lard Oils		
Prime Winter Strained lb.	15.25	15.25
Extra Winter Strained lb.	12.75	12.75
Extra lb.	12.50	12.50
Extra No. 1 lb.	12.00	12.00
No. 1 lb.	11.75	11.75
No. 2 lb.	11.50	11.50
Tallow oil lb.	11.00	11.00
Neatsfoot Oil		
Pure, bbls. lb.	14.50	14.50
Extra, bbls. lb.	12.25	12.25
No. 1 bbls. lb.	12.00	12.00
Cold Pressed lb.	12.50	12.50
Fish Oils		
Menhaden Oil		
Light Pressed gal.	70	70
Light Pressed, tank cars, N. Y. gal.	58–60	58–60
White bleached gal.	78	78
Yellow bleached gal.	71	71
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam, distilled turpentine, N. Y. gal.	50	50
Steam distilled turpentine, Savannah gal.	45	45
Gum turpentine, N. Y. gal.	55	55
Gum turpentine, f.o.b. cars Savannah gal.	47.50	47.50
Wood Rosin F, N. Y. gal.	$7.30	$7.30
Wood Rosin F, Savn'h bbl.	$6.50	$6.50
Gum Rosin B, N. Y. bbl.	$8.40	$8.40
Gum Rosin B, f.o.b. cars Savannah bbl.	$6.75	$6.75
Rosin oil, pure gal.	59	59
Rosin oil, compounded gal.	60	60
Pine Tar		
Kiln burnt bbl.	$13.00–14.00	$13.00–14.00
Retort bbl.	$13.50–14.50	$13.50–14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	59–66	59–66

OIL STOCKS AND FINANCES

National Petroleum News

Associated Oil to Spend $20,000,000 in 1930

SAN FRANCISCO, Jan. 3.—The Associated Oil Co.'s 1930 program calls for the expenditure of approximately $20,000,000, P. A. Allen, domestic sales manager, announced at the company's annual sales conference here. He quoted a statement from the office of W. F. Humphrey, president of Associated.

About $11,000,000 will be used in the producing division, $6,000,000 in the refining division, $2,000,000 in marketing, and $1,000,000 in transportation.

A part of the marketing appropriation will be spent in airport service stations in California, Oregon and Washington in line with the company's policy of fostering aviation.

Ohio Oil Approves Deal Merger Scheme

CLEVELAND, Jan. 4.—Stockholders of the Ohio Oil Co. at their special meeting Dec. 30 at Findlay, O., approved an issue of $60,000,000 6 per cent preferred stock to be used in acquiring control of the Illinois Pipe Line Co. The preferred stock par value is $100 a share.

The Ohio Oil Co. plans to offer Illinois Pipe Line stockholders three shares of the new preferred for each $100 share of Illinois stock they hold.

The new preferred is retirable after three years at $110 a share.

Southern Announces Price for Lines

CLEVELAND, Jan. 4.—The Southern Pipe Line Co. is to receive $2400 a mile for its 8-inch line and $1500 a mile for its 6-inch line which make up the trunk line it proposes to sell to the Manufacturers Light & Heat Co. This line extends from the junction of the Southern and Eureka pipe lines at the Pennsylvania-West Virginia border to Millway, Pa.

The proposition to sell will be submitted to Southern stockholders at their annual meeting Jan. 22 at Oil City, Pa.

This will be the second part of the Southern system to be sold to Manufacturers Light & Heat Co. to be used for natural gas transportation to the east. The first section was sold early in 1929.

Sale of the former oil lines has resulted from the diminishing of the movement of crude oil by pipe line to Atlantic seaboard refineries.

Middle States Owners For New Company

NEW YORK, Jan. 4.—Certificate of incorporation has been filed in Delaware for the Middle States Petroleum Corp. which will acquire all assets of the Middle States Oil Corp. which has been in receivership for more than five years.

The new company has 300,000 shares of Class A no par common stock and 2,000,000 shares of no par Class B common.

It is expected that all members of the Middle States reorganization committee will be elected to the board of the new corporation and that stock of the new company will be listed shortly on the New York Stock Exchange.

Union Tank Car Stock Exchange Is Begun

CLEVELAND, Jan. 4.—Exchange of new no par shares of Union Tank Car Co. for old $100 par shares began Jan. 3, C. W. Hochette, secretary of the company, has announced. Four new shares are being exchanged for one old at the Equitable Trust Co., New York.

The new stock has been listed on the New York Stock Exchange and the old stock will shortly be removed from the list, Mr. Hochette said. Dividends are to be discontinued at once on the old stock so as to expedite the exchange.

Galena Signal Oil Dissolved

CLEVELAND, Jan. 4.—Stockholders of the Galena Signal Oil Co. have voted to dissolve the corporation as provided in the stockholders' reorganization plan. Property of the company is to be operated by the new Galena Oil Corp.

Higher Oil Stock Prices Foreseen

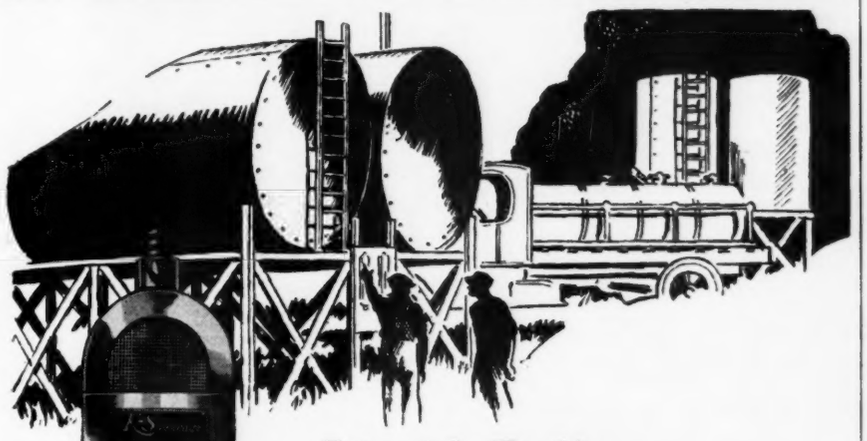
NEW YORK, Jan 4.—J. W. Smallwood, partner in Carl H. Pforzheimer & Co., Standard Oil securities specialists, believes there is substantial ground for optimism concerning prices of oil stocks this year. Mr. Smallwood gives his opinion in a forecast in the annual financial and business survey of the New York Evening Fost.

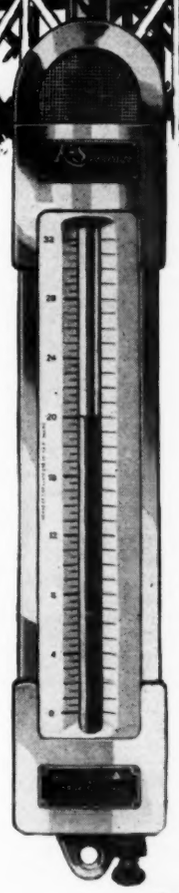
"Oil securities as a group in the late bull market were singularly free from inflation," Mr. Smallwood wrote. "Speculative buying was discouraged by overproduction and uncertainty regarding the future with the result that the market prices of this group represent sound values based on tangible assets as well as earnings.

"In past years large profits have been realized in the oil business through changes in crude and refined prices. There is little likelihood at present of a substantial upward movement of prices. Profits must, therefore, be increased through larger volume and greater efficiency. Under such conditions the companies best situated are those well balanced in all branches of the business and in strong financial position. For the shares of these companies the prospects appear to be for a higher level of prices during the course of the next year (1930)."

CLEVELAND, Jan. 3.—As an indication of industrial building prospects for 1930, W. J. Austin, president of the Austin Co., general engineering construction firm, announces that its estimated purchases of major material requirements for the new year will be approximately 20 per cent greater than purchases of building materials by that company in 1929. Mr. Austin said these purchases do not include those which will be made in connection with the company's $40,000,000 automobile plant and industrial city project in Russia and other contemplated work abroad, which will be handled by its newly created foreign operations department.

Kerosene exports to French Morocco in 1928 by the United States totaled close to 80,000 barrels, compared with exports from France, ranking second with 21,000 barrels.





Liquid Dollars—
Are they being wasted in your Tanks?

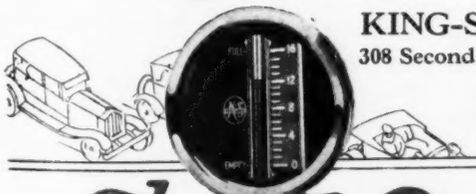
The only way you can make money in the oil business is to keep exact check on the liquid contents of the tanks in your yard. You can't make profits while the liquid dollars stored in your tanks are subject to the wastage that is inevitable unless you keep a constant check on the contents of each tank.

Many leading oil companies and distributors have found the answer to this important problem in the K-S Telegage, a distant-reading gauge that establishes a positive central control over the contents of your storage tanks.

By turning to your instrument board, you can tell at once the contents of each tank, enabling you to get a quick and reliable inventory of your entire stock, and by thus watching it, you can quickly spot "delivery leaks," and other forms of profit-devouring wastage.

You not only by this method keep a better control of your liquid dollars, but you save the time taken by the old-fashioned method of sending out a man with a measuring tape or stick.

You should find out at once about the savings that the K-S Telegage can show you. Write for complete information, giving a full description of your requirements. Give the Baume or specific gravity of each liquid to be measured, the distance from tank to desired location of gauge, and size of tank. We will give you some information that may solve many of your difficulties.



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YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

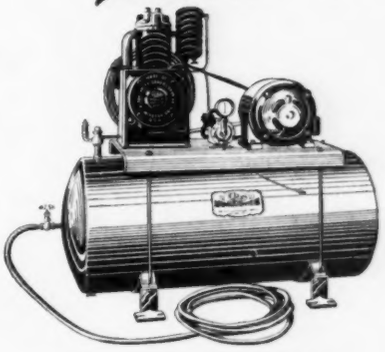
The National Refining Co.
Cleveland, Ohio

TESTED, TRIED, TRUE

We are honest in our belief that the Oro T-58, shown below, will give better service and longer service than any air compressor, under any other name, at a much higher price than quoted below.

The repeat orders for this type, for average station service, proves that big buyers know good value.

The Oro T 58
GOOD as GOLD



2 H. P. Motor
60 gal. Tank **$215**
From your jobber

THE AU-TO COMPRESSOR CO.
201 Mulberry St. Wilmington, Ohio
Export office, 126 Liberty St., New York City

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Jan. 4 Sales	First	High	Low	Last	Change
43⅞	27⅛	42⅝	17½	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Oct. 31, 29	20,600	17⅞	21⅝	17½	20¾	+ 2⅝
85	51¼	64¾	12½	(sh) 209,180	N.P.	American Republics Corp.	....	.....	8,900	21½	25⅛	21½	22⅝	— ⅜
53⅜	37½	47¼	35	$56,000,000	$25	Associated Oil.	50cQ	Dec. 31, 29	170	35½	37	33½	37	+ 2½
62½	50	77⅞	30	50,000,000	25	Atlantic Refining.	‡25cQ	Dec. 16, 29	44,000	37½	39⅜	36½	38½	+ 1
53	20	49⅛	20	47,261,125	25	Barnsdall Corp. A.	50cQ	Nov. 7, 29	52,500	23⅜	23⅞	22⅝	23⅜	— ⅛
51⅜	20	49	38⅛	300,525	25	do B.	50cQ	Nov. 7, 29	....	....	....	....	....	....
24½	12¼	32⅞	13¼	(sh) 956,075	N.P.	Beacon Oil.	....	.....	9,100	13½	16⅜	12½	15	+ 1¼
36	25¼	34½	25	$51,524,150	$25	California Petroleum	....	Jan. 1, 29	....	....	....	....	....	....
....	....	37⅜	18	(sh) 4,634,163	N.P.	Continental Oil (Delaware)	....	.....	66,500	22¼	23⅞	22	23	+ ¼
94⅞	68	94⅜	42¼	21,031,400	100	General Asphalt	$1Q	Dec. 16, 29	4,300	48¼	51	48¼	50⅜	+ 1⅝
141	110⅛	138	103½	6,628,200	100	do pfd.	$1.25Q	Dec. 2, 29	....	....	....	....	....	....
67	79	109	23	25,000,000	100	Houston Oil.	....	.....	2,500	54	58	54	55⅜	+ 1¼
38⅜	21¾	39¼	17¾	(sh) 1,333,157	N.P.	Independent Oil & Gas	50cQ	Oct. 31, 29	10,000	22	23	22	23¾	+ ¾
39⅝	9	53	13	$4,299,190	$10	Indian Refining.	....	Dec. 15, 20	31,600	17⅝	18⅞	17⅛	18	+ ⅜
37¼	8½	51¼	11½	4,550,110	10	do ctfs.	....	.....	14,100	16	16⅞	15½	16½	+ ½
185	140	165	160	1,977,700	100	do pfd. new.	$1.75Q	Oct. 1, 29	....	....	....	....	....	....
39⅛	27⅜	38⅜	16½	3,992,387	N.P.	Lago Oil & Transport.	....	May 2, 27	400	21¾	21¾	21¼	21¾	0
119¾	9⅜	18	7	(sh) 1,187,298	N.P.	Louisiana Oil Refining.	....	.....	10,000	8⅝	9½	8½	9¼	+ ⅜
96	78	100¼	80	$4,000,000	$100	do pfd.	$1.62½	Nov. 15, 29	20	88	88	88	88	+ 6
25½	12½	18½	7½	(sh) 330,000	N.P.	Maracaibo Oil.	....	.....	3,200	5½	5½	5⅜	5½	+ ¼
360	250	295	176	$45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20, 29	....	....	....	....	....	....
....	....	....	....	12,000,000	100	do pfd.	$2Q	Oct. 20, 29	....	....	....	....	....	....
73	4⅝	69⅜	9¼	(sh) 995,500	N.P.	Mexican Seaboard.	....	Nov. 15, 24	17,100	17½	18⅞	17⅛	17¾	+ ⅛
44½	25⅛	39⅞	22⅛	(sh) 1,857,461	N.P.	Mid-Continent.	50cQ	Nov. 15, 29	9,500	26¾	27½	26¾	27	0
120½	103¼	121	120¼	$6,718,000	$100	do pfd.	$1.75Q	Dec. 1, 29	....	....	....	....	....	....
7⅜	2⅜	5⅛	⅝	23,849,720	10	Middle States.	....	July 1, 23	....	....	....	....	....	....
5⅞	1½	3⅝	⅞	5,950,500	10	do ctfs.	....	.....	3,500	1	1⅛	1	1⅛	0
2¼	1	1½	⅝	(sh) 3,500,000	N.P.	Pacific Oil.	....	.....	10,800	1	1⅛	1	1	0
55½	38¼	69	40¼	$50,000,000	$50	Pan American P. & T.	....	Oct. 20, 27	1,600	58	60⅛	58	60	0
58⅞	37⅜	69¼	40½	121,101,400	50	do B.	....	Oct. 20, 27	4,500	58½	60⅛	58¼	60	+ 2
28⅜	15½	17½	13½	(sh) 400,000	N.P.	Pan. American Western B.	....	Jan. 30, 27	....	....	....	....	....	....
21⅜	11½	15¼	3	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	100	4⅝	4⅝	4⅝	4⅝	— ⅛
106¼	70	76	47½	$2,935,200	$100	do pfd.	....	July 2, 23	....	....	....	....	....	....
53⅞	35¼	47	24¾	(sh) 2,406,803	N.P.	Phillips Petroleum.	‡50Q	Jan. 2, 30	14,500	34⅜	35⅜	33⅛	35	+ ⅜
5¼	½	3⅜	1	$29,622,925	$25	Pierce Oil Corp.	....	.....	1,200	1	1⅛	1	1	— ⅛
50	16¼	51½	20	15,000,000	100	do pfd.	....	Feb. 1, 22	300	20⅛	20⅜	20	20¾	+ ⅜
6⅜	3½	5⅞	⅛	(sh) 2,500,000	N.P.	Pierce Petroleum.	....	.....	2,300	2⅜	2½	2¼	2½	+ ¼
64⅜	59½	65⅜	40½	$60,636,450	$25	Prairie Oil & Gas.	‡50cQ	Dec. 31, 29	6,300	51⅝	52	50⅜	52	+ ½
....	....	65	45	101,250,000	25	Prairie Pipe Line.	‡76cQ	Dec. 31, 29	2,000	58⅞	59⅛	58⅞	59	0
29⅞	16	25⅞	4	37,450,850	50	Producers & Refiners.	....	Sept. 15, 23	3,000	8⅛	8⅞	7	8⅞	+ ⅞
49⅜	41	46⅝	25½	2,845,350	50	do pfd.	....	May 1, 25	1,400	32¾	32¾	31¼	31⅜	+ 1⅛
31¼	19	30¾	20	75,959,255	25	Pure Oil Co.	37½cQ	Dec. 16, 29	21,000	23¾	24⅜	23	24	+ ⅜
119	108	116	108	13,000,000	100	do 8% pfd.	$2Q	Jan. 2, 30	60	113	113	112¼	112½	— ¼
56	23½	49⅝	20	47,127,725	25	Richfield Oil.	50cQ	Nov. 15, 29	18,000	24⅞	25⅞	23⅜	24⅞	+ ⅜
....	....	42½	15	(sh) 1,200,000	N.P.	Rio Grande Oil Co.	‡$1S.A.	July 25, 29	12,700	19⅛	19⅞	18⅜	19⅜	— ⅛
64	44⅜	64	43¼	(sh) 546,646	$13.40	Royal Dutch N. Y. shares.	$1.873	Aug. 10, 29	21,300	52⅝	53¾	52	53⅝	+ 1⅝
57½	39⅜	55¾	43	(sh) 65,203,000	£2	Shell Transport & T.	$1.447	July 23, 29	130	...	47	46	47	+ 2
39⅜	23¼	31⅝	19	12,254,979	N.P.	Shell Union Oil.	35cQ	Dec. 31, 29	5,400	23½	23⅝	22¾	23⅛	+ ⅛
27¼	18⅛	40¾	15	$8,357,280	$10	Simms Petroleum.	40cQ	Dec. 14, 29	3,200	22¾	26½	22½	26⅜	+ 3⅜
46¾	17⅜	45	21	5,494,095	N.P.	Sinclair Consolidated.	‡50cQ	Oct. 15, 29	64,800	23½	24⅞	23	24⅝	+ 1⅛
110	102½	111	103	$16,025,200	$100	do pfd.	$2Q	Nov. 15, 29	400	109⅝	109⅝	109⅛	109½	0
42⅝	25	46½	28	27,396,590	25	Skelly Oil Co.	50cQ	Dec. 16, 29	5,600	30⅞	32	30⅝	31	+ ⅛
80	53	81⅞	51½	(sh) 13,016,435	N.P.	S. O. California.	‡62½cQ	Dec. 16, 29	18,000	59⅜	61⅝	59¼	61¼	+ 1⅜
59¾	37⅝	83	48	$612,095,850	$25	S. O. New Jersey.	‡25cQ	Dec. 16, 29	82,900	64⅝	66⅞	64⅜	65⅞	+ 1⅜
45½	28¾	48⅛	31¾	434,094,575	25	S. O. New York.	40cQ	Dec. 16, 29	55,000	32¼	33⅞	32¼	33	+ ⅝
77	31½	84⅝	55	(sh) 1,297,847	N.P.	Sun Oil.	‡25cQ	Dec. 16, 29	1,200	56	59⅜	56	59¾	+ 2⅜
110	110	105½	100	$5,000,000	$100	do pfd.	$1.50Q	Dec. 2, 29	30	104⅞	104⅞	104⅜	104½	+ 1½
14¼	2⅛	24	5¼	(sh) 1,304,698	N.P.	Superior Oil Corp.	....	Dec. 20, 20	7,800	6⅛	7⅜	5⅞	6⅜	+ ½
74¾	50	71⅞	50	$211,082,925	$25	The Texas Corp.	75cQ	Jan. 1, 30	17,100	55½	56⅜	55	55¾	— ¼
26⅝	12¼	23⅞	9½	8,380,340	10	Texas Pacific Coal & Oil.	2½%•	Dec. 31, 29	12,300	10⅛	10⅜	9¾	10¼	— ⅛
41½	19⅜	40	14	(sh) 2,179,275	N.P.	Tide Water Oil Co.	20cQ	Dec. 31, 29	1,800	20	21⅞	20	21⅞	+ ⅞
100⅜	86¾	97½	85⅛	$20,321,000	$100	do 5½% pfd.	$1.25Q	Nov. 15, 29	....	....	....	....	....	....
25	14¾	23½	10	(sh) 4,877,976	N.P.	Tide Water Associated.	....	Aug. 1, 27	44,600	11⅞	13¼	11⅜	12⅜	+ ⅜
91¾	81⅞	90⅞	74⅛	$72,989,200	$100	do pfd.	$1.50Q	Jan. 2, 30	1,200	81	85	81	81½	— ⅜
14½	6¾	15¼	5⅛	(sh) 3,842,029	N.P.	Transcontinental Oil.	....	.....	62,500	8¼	8¾	8¼	8⅝	+ ¼
58	42¾	54½	42⅛	$40,858,375	$25	Union Oil of California.	‡50cQ	Nov. 9, 29	2,700	43½	46	43½	45	+ ½
128⅛	110	163¾	121⅞	31,101,200	100	Union Tank Car Co.	$1.25Q	Dec. 2, 29	....	....	....	....	....	....
44⅞	26	42⅞	15	(sh) 488,359	N.P.	Warner Quinlan.	50cQ	Jan. 2, 30	7,500	20¼	20⅞	20	20	— ⅛
38	20⅛	38	25	(sh) 490,000	N.P.	White Eagle Oil & Refining.	50cQ	Oct. 21, 29	4,100	26¾	27¼	26⅝	27¼	+ ¾
22⅛	17¼	29¾	12⅞	(sh) 428,967	N.P.	Wilcox Oil & Gas.	....	May 10, 28	1,000	14	14¼	14	14¼	+ ¼

•New High †New Low xEx-Dividends ‡Also Extras s-Stock Total Sales 828,310

Pittsburgh Stock Exchange

Transactions Week Ended Jan. 3, 1930

	Sales	High	Low	Last	Change
Ark. Nat. Gas....	140	10	9⅜	9⅜	+ ⅛
Devonian Oil....	510	11½	11	11	0
Lone Star Gas....	2,680	36	33½	36	+2½
do pfd.....	60	105	104½	105	0
Plymouth Oil....	150	26½	26½	26½	— ¾
Pgh. Oil & Gas...	800	3	3	3	0
Salt Creek Cons..	900	2	2	2	+ ⅛
Shamrock Oil & Gas	1,028	18⅞	17⅞	18⅞	+1⅛
Waverly Oil A...	300	20	†20	20	—5

†New low

Pittsburgh Curb Market

Transactions Week Ended Jan. 3, 1930

	Sales	High	Low	Last	Change
Arkansas Gas A..	500	9¼	9	9	0
Leonard Oil & Dev.	1,500	1⅛	1⅛	1⅛	0

Oil Dividends

	Amount	Payable	Stock of Record
Amerada Corp. q.....50c		Jan. 31	Jan. 15
Mid-Continent Pet. q...50c		Feb. 15	Jan. 15
Richfield Oil q.....50c		Feb. 15	Jan. 20
Salt Creek Prod. q.....50c		Feb. 1	Jan. 15

Financial Notes

Standard Oil Co. of New York—15,790 additional shares of $25 par common stock listed on New York Stock Exchange.

Oklahoma Natural Gas Co.—Net earnings after expenses and taxes in 12 months ended Nov. 30 amounted to $4,552,110 as compared with $3,851,108 in preceding 12 months.

Standard Oil Co. of Kentucky—Recent income tax refund of $2,614,552 amounted to more than $1 a share on the 2,565,460 outstanding shares of $10 common stock. The refund amounts to a little more than half the 1929 dividend payments.

DAYTON, Ohio, Jan. 2.—The Refiners Oil Co. has purchased the Medina Oil Co. at Medina, O. This purchase included their bulk plants at Medina and Litchfield as well as their tank routes and service stations, according to W. E. Talbot, general manager of the Refiners Oil Co.

Dinner For Eastern Oil Men Jan. 22

PHILADELPHIA, Jan. 6.—The annual dinner of the Oil Trade Association of Philadelphia will be held at the Bellevue Stratford Hotel, at Philadelphia, Jan. 22. Executives of the various oil companies in New York, Philadelphia and Baltimore are expected at the dinner, according to J. M. Patterson, president of the association.

E. G. Godard Dead

HOUSTON, Jan. 6.—Funeral services for E. G. Godard, for 16 years manager of the Houston branch of Gould's Pumps, Inc., were held Jan. 5. Mr. Godard died suddenly, the result of a stroke. He was a native of Mayville, New York.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

SALESMAN WITH EXECUTIVE ABILITY, twelve years experience marketing high grade petroleum products, as well as supervising and managing filling stations and bulk plants, desires connection with opportunity to produce results. Thirty-eight years of age, married. Best references. Address Box 460.

ADVERTISING AND SALES PROMOTION EXECUTIVE

with background of well diversified experience in oil industry, which covers every phase including six years in selling and advertising, seeks connection with large oil company as advertising and sales promotion manager. Age thirty-two.

Address Box 469

YOUNG MAN SECRETARY, single, experienced in oil refining industry, expert work, desires new position. For further particulars, address Box 471.

SALES EXECUTIVE AVAILABLE

A man with several years experience as a director of sales will be available about Jan. 15. Has personally sold as well as directed sales of gasoline, motor oils and grease to the jobbing trade. Has had unusual experience in compounding and managing grease and oil compounding plants. Still under forty-five years of age, healthy, am in a position to travel anywhere.

Address Box 468
c/o National Petroleum News

REFINERY SUPERINTENDENT at present employed desires change. Will go anywhere. Fifteen years' experience. Best of references. Address Box 472.

I CAN SELL GREASE AND OIL

Any grease manufacturer or motor oil company in need of a proven salesman or sales manager will be interested in checking up on me. I know grease and oil. I know how to market petroleum products. I have a successful record behind me and can help you to a successful future.

Twelve years experience as a compounder, salesman and sales manager has given me a knowledge of and an acquaintance among oil marketing companies that will prove an asset to any alive and worthwhile oil or grease company.

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Positions Wanted

SUCCESSFUL WHOLESALE GASOLINE SALESMAN—with select clientele in large auto driving state in East has unique selling and organization plan which will perhaps take output of large refinery or gasoline and lub oils for ten years or more. This is a plan which will be either for you or against you in the future. Address—"Toledo," c/o National Petroleum News, 904 World Bldg., Tulsa, Okla.

Situations Open

SALESMAN WANTED with a following among the Oil Producers and Refining Trade to sell Tank and Maintenance Paints. Address THE MIDLAND PAINT & VARNISH COMPANY, CLEVELAND, OHIO.

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Phone: Lincoln 1102

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in good north-west Missouri town of 1200 population. Chance to supply one service station doing 9000 gallons monthly as well as a number of good dealer outlets and excellent rural business.

ADDRESS BOX 470

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Stein-Brill Corporation,
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TANK CARS FOR SALE

8000 gallon, now in gasoline service. Inspection at Kansas City or Okmulgee, Okla. Bargain prices.

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Tell them all about it through the Oil Industry Exchange. The cost is small. See rates at bottom of page.

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Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Jan. 4 Sales	First	High	Low	Last	Change
22⅜	14⅞	18¾	14¼	£4,126,460	£ 1	Anglo-American Oil	36c	June 5, 29	.....	.....	.....	.....	.....	.....
21¼	15	18	13	.....	....	do certificates	36c	June 5, 29	14,600	16⅞	17⅛	16⅞	17⅛	+ ⅛
20½	14⅜	17	11	.....	£ 1	do ctfs. non-voting	36c	June 5, 29	10,500	17	17⅛	16⅞	16⅞	— ⅛
5	1¼	2½	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	.....	.....	.....	.....	.....	.....
9¾	3½	4⅜	1	$10,000,000	$50	do pfd	.....	.....	1,100	1¼	1¼	1¼	1¼	— ⅛
56	44½	46½	25	$1,000,000	25	Borne-Scrymser	$1 S.A.	Oct. 15, 29	100	29	29	29	29	+ 4
76	58	74¼	55	10,000,000	50	Buckeye Pipe Line	‡$1Q	Dec. 14, 29	500	69	69½	69	69½	+ 1
161	117¼	210	130	3,000,000	25	Chesebrough Mfg.	‡$1Q	Dec. 30, 29	1,200	148	174½	148	174½	+31½
23	16	29	8⅛	36,123,350	10	Continental Oil	.....	Dec. 15, 27	1,100	13¼	15⅞	13⅛	14⅛	+ ⅞
17⅛	9⅛	11¾	5⅝	.....	N.P.	Creole Petroleum	.....	.....	34,800	6⅛	6½	6	6½	+ ⅜
82	67	95	40	1,500,000	50	Cumberland Pipe Line	$1Q	Dec. 16, 29	50	41	41	41	41	+ ½
88	64⅛	70½	42	5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 29	50	48	48	48	48	— 1½
13	4¼	7	3⅛	16,000,000	100	Galena Signal Oil	.....	June 30, 25	300	3	3	3	3	— 1⅛
86	26	90	73½	4,000,000	100	do new pfd	.....	June 30, 26	.....	....	....	....	....	.....
89¾	35	88	71½	2,000,000	100	do old pfd	.....	June 30, 26	.....	....	....	....	....	.....
114¾	59¼	128	74⅛	73,685,700	25	Humble Oil & Refining	50cQ	Jan. 1, 30	2,100	82½	86	82½	86	+ 3
290½	176½	340½	260	20,000,000	100	Illinois Pipe Line	$10S.A.	Dec. 16, 29	150	308	310	308	310	+ 2
104	56¾	41	22	(sh) 26,421,768	N.P.	Imperial of Canada	12½cQ	Dec. 2, 29	3,700	26⅞	27⅜	26⅛	26½	— ⅛
91⅞	74⅜	41⅞	26	$1,000,000	$10	Indiana Pipe Line	‡50cQ	Nov. 15, 29	3,600	40½	40⅞	39⅞	39⅞	— ⅜
55	35	29⅜	15	(sh) 14,247,088	N.P.	International Petroleum	12½c	June 25, 29	6,300	21¼	22	21⅛	21⅜	— 1¼
32⅜	19⅜	25⅞	10½	$6,363,350	12.50	National Transit Co	‡25cQ	Dec. 16, 29	1,400	21⅞	21⅞	21⅛	21⅛	— ¾
75	38½	85	72	1,000,000	10	New York Transit	40c	Oct. 15, 29	.....	.....	.....	.....	.....	.....
...	...	...	...	.....	....	do new	.....	.....	300	15½	16	15½	16	+ 1
69	56½	63	41	2,000,000	50	Northern Pipe Line	$2 S.A.	Jan. 2, 30	.....	.....	.....	.....	.....	.....
83½	58½	79⅞	64¼	60,000,000	25	Ohio Oil Co	‡50cQ	Dec. 14, 29	400	70⅞	71¼	70⅝	71	— ⅜
84	28	44½	18⅝	10,000,000	25	Penn Mex. Fuel	$1	Dec. 14, 29	300	20	20	19	20	0
220	167	50	29	4,000,000	25	Solar Refining	$1.25S.A.	Dec. 20, 29	400	33½	33½	33½	33½	+ 3½
19	12	23½	13	1,000,000	10	Southern Pipe Line	$10	Dec. 31, 29	300	14¼	14⅞	14¼	14¼	+ ¼
71⅞	36¾	60¼	35⅛	30,000,000	25	South Penn Oil	‡50cQ	Dec. 30, 29	3,400	40⅛	41¼	40	41	+ ½
102	70	70	45	1,750,000	50	South West Pa. Pipe Lines	$1	Dec. 31, 29	150	57½	59	57⅛	59	+ 4
95⅞	70⅞	63	45	348,175,069	25	S. O. Indiana	‡62½cQ	Dec. 16, 29	41,500	53⅜	54⅜	53¼	54	0
27⅜	15	33¾	18	8,000,000	25	S. O. Kansas	‡50cQ	Dec. 16, 29	2,300	27⅛	29⅜	27	29⅛	+ 1½
49	44	46⅜	29	25,654,516	10	S. O. Kentucky	‡40cQ	Dec. 31, 29	4,300	33⅜	33⅞	33⅛	33⅜	— ⅜
54⅜	39⅞	50¼	40	4,649,225	25	S. O. Nebraska	‡62½cQ	Dec. 20, 29	200	44¼	44¼	44¼	44¼	+ ¼
134	71	129	60	14,000,000	25	S. O. Ohio	62½cQ	Jan. 2, 30	1,500	80¼	88⅛	80¼	88⅜	+ 7⅛
125	116	125½	106	7,000,000	100	do pfd	$1.75Q	Dec. 2, 29	40	117½	117½	117½	117½	0
23⅛	16	18	5⅜	861,466	25	Swan Finch	30c	Jan. 15, 29	.....	.....	.....	.....	.....	.....
111	72	133¾	75	126,154,000	25	Vacuum Oil	‡$1Q	Dec. 20, 29	3,600	94⅞	96	93	96	+ 1½

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended Jan. 4 Sales	First	High	Low	Last	Change
1½	.53	.72	.125	$5	Amer. Cons. Oilfields	1,400	1/16	1/16	1/16	1/16	+ 1/16
9½	3⅛	8⅝	1⅛	N.P.	Amer. Maracaibo	6,800	1½	1½	1½	1½	— 1/16
4½	2⅛	4⅛	1	$10	Argo Oil	100	½	½	½	½	— ½
3¾	3⅜	26	3¼	N.P.	Arkansas Nat. Gas	7,800	9⅜	10⅛	9	10⅛	+ ⅝
.....	....	24¾	6½	N.P.	do A	24,400	9⅛	9⅞	8¾	9⅞	+ ½
...	...	9	4	10	do pfd	.....	....	....	....	....	.....
55	32¾	70	50	N.P.	British American Oil	.....	...	...	...	...	.....
23⅞	3¾	4⅞	1	25c	Carib Syndicate	11,200	1	1⅛	1	1	0
.....	....	68⅛	20	N.P.	Cities Service new	71,500	26⅜	27¾	25⅜	27¾	+ 1
103½	94½	99¼	84	100	do pfd	900	88⅜	88¾	88¼	88⅜	— ½
9⅜	8⅞	9¼	8	10	do pref. B	.....	....	....	....	....	.....
97	88½	96	81	100	do pref. BB	100	82	82	82	82	+ ¾
2¼	1	1½	¼	1	Colombia Syndicate	8,100	3/16	⅜	¼	¼	+ 1/16
17⅜	9¾	15	3⅞	N.P.	Colon Oil	8,800	5	6	4⅞	6	+ ⅛
8⅛	6¼	11⅜	2½	10	Consolidated Royal	2,400	4¼	5⅞	4	5⅞	+ 1⅜
....	....	135	42	N.P.	Cosden Oil Co	100	74	74	74	74	— 6
....	....	82	55	....	do pfd	200	60	62	60	62	0
3¼	.76	2½	¼	N.P.	Crown Central	3,800	3/16	⅛	¼	¼	— 1/16
15	6¾	11⅜	4	N.P.	Crystal Oil	.....	....	....	....	....	.....
50	48	51⅜	51⅛	$100	do pfd	.....	....	....	....	....	.....
33⅛	8⅛	26	6½	N.P.	Darby Petroleum	14,600	8⅛	8¾	8⅜	8¾	+ ¼
2⅞	1	11	2	N.P.	Derby Oil & Refining	2,200	5	5⅜	4⅞	5⅛	— ⅛
21⅛	7⅛	44	5	N.P.	do pfd	100	36	36	36	36	+31
165	101⅛	209	115	$25	Gulf Oil Corp	3,400	133¾	139¾	133	137¼	+ 5
7½	5⅜	7½	1⅜	5	Homaokla Oil	800	3	3	3	3	0
....	....	49¼	5	$1	Indian Territory	3,800	19½	22¼	19	22¼	+ 2
3⅜	1	2⅞	⅜	10	Intercontinental Pet.	7,500	¾	1	¾	1	+ ⅛
3	¼	3⅜	1¼	N.P.	Kirby Petroleum	1,800	1¾	1⅞	1¾	1⅞	+ ⅛
9⅜	5⅛	6⅜	1	N.P.	Leonard Oil & Dev	8,400	1⅛	1⅜	1⅛	1¼	+ ⅛
43¾	20	38⅞	18	N.P.	Lion Oil & Refg	8,100	19	20	18⅜	19⅞	+ ⅜
....	....	67¼	28	N.P.	Lone Star Gas	4,200	34	37½	34	37½	+ 3½
1⅞	.50	1¼	¼	1	Magdalena Syndicate	4,800	¼	⅛	¼	⅛	0
48½	32	38½	15	N.P.	Margay Oil	.....	....	....	....	....	.....
8	2¾	6⅜	2½	N.P.	Mexico-Ohio Oil	400	2¼	2⅜	2¼	2⅜	— ⅛
....	....	42	8	N.P.	Missouri-Kan. P. L.	5,800	18⅞	19¼	18⅝	19¼	— ¼
1⅜	.76	1½	¼	1	Mountain & Gulf	.....	....	....	....	....	.....
28⅞	19½	22⅞	7	10	Mountain Producers	3,800	7⅞	8⅞	7⅝	8⅞	+ 1¼
....	....	43⅞	24	N.P.	Nat. Fuel Gas (new)	1,400	25½	26⅛	25¼	26	+ ½
5⅝	4¼	5	2¼	5	New Bradford	4,400	2⅞	2⅞	2⅝	2⅝	0
5½	3	3⅞	2⅜	10	New England Fuel	300	4	4	3⅛	3⅛	— ⅝
11⅞	7⅛	9⅜	2¼	1	New Mex. & Ariz	1,300	4	4	3½	3½	— ½
15½	11½	24½	11⅜	25	New York Petrol	400	16⅜	16⅞	16⅜	16⅞	+ ⅜
13¼	8⅜	18½	6⅜	N.P.	North Cent. Texas	200	8½	8½	8½	8½	+ ⅜
....	....	19¼	8⅜	N.P.	Oil Stock, Ltd. A	600	9½	9½	8¼	8½	— ⅝
....	....	18¼	10	N.P.	do B	.....	....	....	....	....	.....
26¼	20	26⅝	12⅛	N.P.	Pacific Western Oil	700	12⅛	13½	12¼	13½	+ 1⅜
6	2⅛	3½	½	N.P.	Pandem Oil	1,200	⅛	1⅝	1¼	1½	+ ⅜
15⅜	8½	10½	2⅜	N.P.	Pantepec Oil	2,300	2⅜	3⅛	1⅞	2⅜	— ⅜
20	10⅜	25½	22½	$25	Paragon Refg. B. ctfs.	.....	....	....	....	....	.....
....	....	34½	17	N.P.	Petroleum Corp	2,100	19¾	20⅞	19½	19⅞	0
31¾	26½	37	22	N.P.	Plymouth Oil	500	26	27⅛	26	27⅛	0
18	8	16	9⅜	25	Red Bank Oil	.....	....	....	....	....	.....
13	4⅛	8⅛	1⅜	N.P.	Reiter-Foster	400	2⅜	2⅝	2⅜	2½	+ ⅛
31⅛	23¾	25½	19	$25	Richfield pfd	100	23½	23½	23½	23½	+ 1¾
....	....	29	13	....	Root Refining pfd	200	15	15	15	15	— 2
12	4⅜	11	3	N.P.	Ryan Consolidated	.....	....	....	....	....	.....
7¼	5½	5⅞	1⅞	$10	Salt Creek Cons	500	2	2	2	2	0
35	23¼	25⅞	9	10	Salt Creek Prod	1,900	9⅜	10⅞	9⅜	10⅞	+ ⅝
3½	1	2½	½	5	Savoy Oil	100	⅞	⅞	⅞	⅞	— ⅛
40	27	33⅜	10	25	Shreveport El Dorado	.....	....	....	....	....	.....
....	....	24	11⅜	N.P.	Southland Royalty	2,400	14½	16	14½	15⅞	+ ⅞
....	....	12	4	N.P.	Sunray Oil	1,000	6½	6⅝	6¼	6⅝	+ ⅛
....	....	23	7½	N.P.	Texon Oil & Land new	2,600	8½	12	8	10	+ 1⅞
22⅞	13	16⅞	11⅜	$10	Tidal Osage	.....	....	....	....	....	.....
21¼	13⅜	16½	10⅛	10	do not-voting	.....	....	....	....	....	.....
93¾	75	155	80	100	Transcontinental pfd	.....	....	....	....	....	.....
74¼	18	81⅜	66	10	Venezuela-Mexico	.....	....	....	....	....	.....
9⅛	4⅜	6½	1⅜	3	Venezuelan Petrol	3,700	2½	2½	2¼	2½	+ ⅛
....	....	2¼	66	N.P.	White Star Oil	.....	....	....	....	....	.....
8¼	4⅞	9⅛	2	1	Woodley Petroleum	100	3	3	3	3	+ 1
⅜	⅜	5⅜	¼	25	Y Oil & Gas	500	1/16	½	1/16	½	+ ¼

*New High †New Low

New York Bonds

Week Ending Jan. 3

	High	Low	Last	Change
Assoc. Oil gold 6s	102½	102	102½	+ ¾
Atlantic Refg. deb. 5s	101	100	100½	+ ½
Cal. Pet. 5s	94	94	94	0
Cal. Pet. 5½s	99⅜	98¾	99⅜	+ ⅜
General Pet. 5s	100¾	100⅜	100¾	0
Humble Oil & Refg. 5s	100¾	100	100½	+ ½
Humble Oil & Refg. 5½s	101¾	100¾	101⅝	+ ⅜
Pan Amer. P & T 7s	104½	104½	104½	0
Pan Amer. P & T 6s	103½	103	103	— ½
Pan Amer. P & T 6s	91	90	90	—3
Phillips Pet. 5¼s	92	91	91¼	— ¾
Pure Oil 5½s	100¼	99¾	99¾	— ½
Richfield Oil of Calif. 6s	96½	95¼	96½	+ ½
Shell Union Oil 5s	95¾	95	95¾	+ ½
Sinclair Con. Oil 7s	101¼	100½	101	0
Sinclair Con. Oil 6½s	100	99⅜	100	+ ½
Sinclair Con. Oil 6s D	100⅛	99⅞	100	0
Sinclair Con. Oil Crude 5½s	97¼	96¾	97¼	+ ½
Sinclair Pipeline 5s	95	94½	94¾	+ ⅜
Skelly Oil 5½s	93¼	93	93¼	— ¼
S. O. N. J. 5s	102½	100⅜	101½	— ¼
S. O. N. Y. 4½s	96⅞	96	96⅞	+ ⅜
Transcontinental Oil 6½s War	99¼	98¼	99	+ ½
Transcontinental Oil 6½s ex-war	87½	87½	87½	—1¾
Union Oil of Calif. 1st 5s A	98½	98½	98½	— ⅜
Union Oil of Calif. 6s A	107	107	107	+ ¼
Union Oil of Calif. 5s C	98½	98⅛	98⅛	+ ¼
Warner-Quinlan 6s	88	87	87	0
White Eagle Oil 5½s	103	102½	102¾	— ¼

New York Curb Bonds

Week Ending Jan. 3

	High	Low	Last	Change
Beacon Oil 6s '36	105½	105	105	— ½
Cities Serv. 5s '66	84	83¼	83¼	0
Cities Serv. G. 5½s '42	84⅞	83⅞	84⅛	+ ⅛
Cities Serv. G. P. 6s '43	90½	90	90	—1
Cont. Oil 5¼s '37	94	94	94	+ ¼
Empire O & R 5½s '42	84⅛	84	84⅛	+ ½
Gulf Oil 5s '37	99¾	99	99¾	+ ½
Gulf Oil 5s '47	100½	100	100½	+ ½
Indep. Oil 6s '39	102⅞	102½	102¾	+ ¼
Shell Union Oil 5s '49	98¾	97⅝	98¾	— ⅛
Sun Oil 5½s '39	100½	100	100½	+ ½

Cleveland Stock Market

Jan. 3	Par Value	Bid	Asked
Canfield Oil Co	$100	100	135
do pfd	100	...	...
Fred G. Clark, Inc	10	10½	10¾
National Refining Co	25	33½	35½
do pfd	100	...	135
Paragon Refining Co	25	10¼	11
do pfd	N.P.	..	..
do ctfs	...	...	10½

x Ex Dividend.